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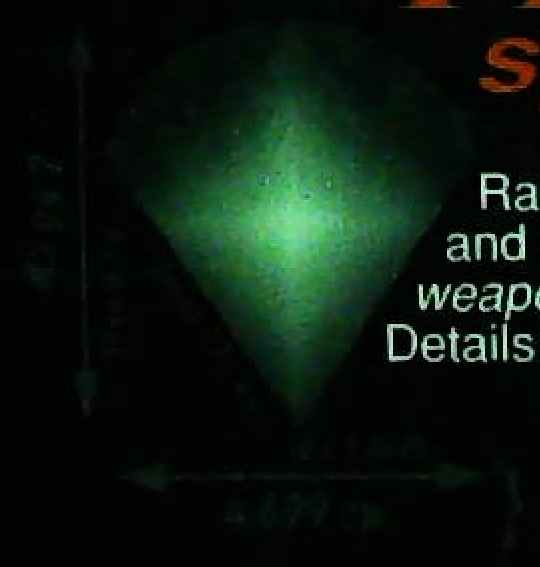

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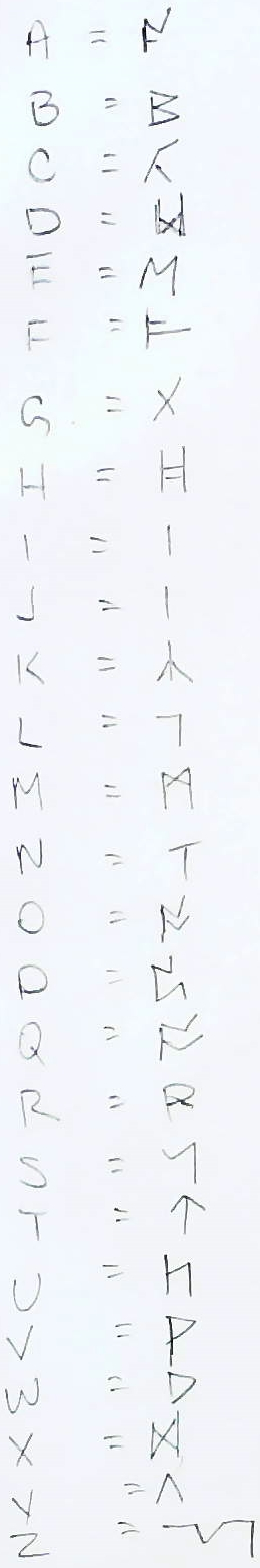

Praise for Radical Rules

"...your book really should be called *The World Domination Kit for Six-String Warriors!*"

—J.L., voice, guitar, songwriter

"...it's just like going to one of those professional music schools, but without paying $6,000!"

—J.C., guitar

"...your bitchin' book holds you by the hand and shows the how's, where's, and why's to chords, scales, modes, and soloing!"

—C.W., guitar

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—R.S., former G.I.T.student

"...power like a set of brass knuckles!"

—S.H., songwriter

"When I started your book, I was a beginner. Now I'm playing in a band... and makin' some extra bucks too! Thanks a bunch!"

—R.P., bass

"...smooth and creamy with punch!"

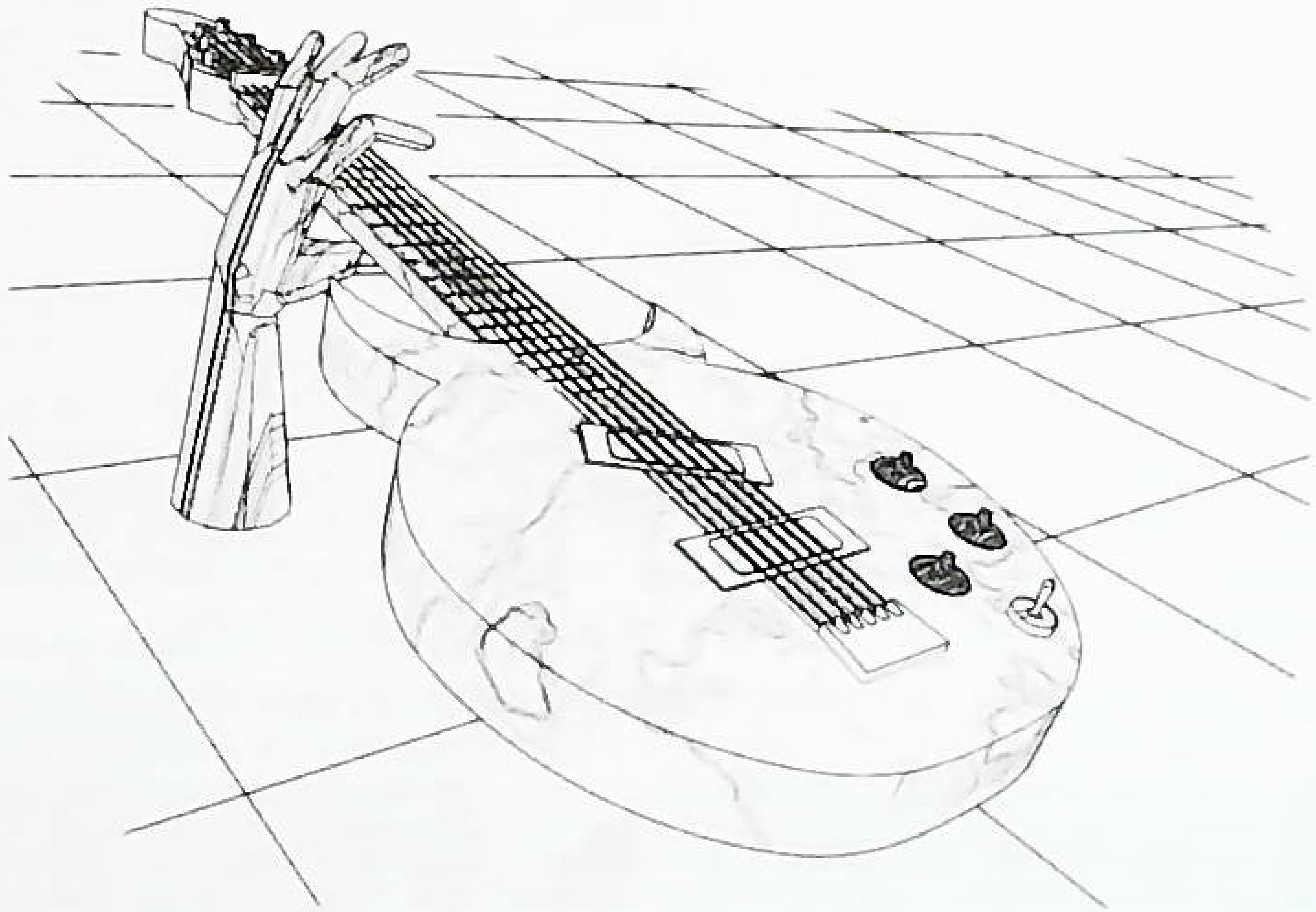
—B.R., guitar

"...high-powered magic!"

—L.W., guitar

RADICAL RULES™

a book by Stuart Christopher Wittrock



Z Grid™
EASY SELF-TEACH SYSTEMS FOR REAL MUSICIANS

Radical Rules
(Fast, Fun and Easy Approach to World-Class Status)

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Third edition

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publisher:
witt***ROCK***, P.O. Box 4101, Cincinnati, Ohio 45204-0101 U.S.A.

jacket design, text layout and artwork:
BÄR + FRAU™, Vienna, Austria

Library of Congress Catalog Card Number: 95-90246

ISBN: 0-87718-001-6

Previously published under the title *Equalized Ratio Approach*™.

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Contents

LEVEL **1** *The Basics*	Chapter 1 Chapter 2 Chapter 3 Chapter 4 Chapter 5 Chapter 6	Tuning Major Scale Notation and TAB Triads Counting and Chord Charts Song Form	**6 chapters.** Includes how to use the Radical Rules system. Traditional and alternate tuning & de-tuning, degrees, terminology, intervals, major scales, crank-off *"lethal licks"* and create *"creamy chords"* with *"repeatable single-string patterns"*, stalk the fretboard with blinding speed using the amazing *"URMSP"* single-string pattern, *"start-up"* suggestions for musicians, cool *"raking"*, hi-tech trem-bar *"scooping"*, and vertical triads. Playing in *"time"*, chord chart basics, 12 bar blues, song structure, how you can create bitchin' world-class demos, joint-venturing with major record companies, copyrights, and more.
LEVEL **2** *More Basics*	Chapter 7 Chapter 8 Chapter 9 Chapter 10	Soloing Notation Values Traditional Chords More Traditional Chords	**4 chapters.** Discussed and described are soloing concepts, alternate picking, thumb & finger relationships for precision picking techniques, clean to scream muting, *"soloing systems"*, and repeatable vertical & horizontal pattern combinations for soloing. Rhythmic values, notation values, counting, dots, triplets and ties, time signatures, chord construction, voicing, 1-5-1-3 chords, hybrid *"power chords"* and tricked-out *"neutral chords"*, diatonic 7th's, *"non-diatonic chords"* used by guys like Van Halen and Vai, and more.
LEVEL **3** *Harmony*	Chapter 11 Chapter 12	Harmonized Diatonic Triads Harmonized Diatonic Four Note Chords	**2 chapters.** Topics include how to become a songwriting mercenary from planet earth, harmonized diatonic triads, parent scale harmony, Roman numeral chord system, harmonized major scale, plus in-depth chordal construction. Liquidate your audience with soloing *"inside"* and *"outside"* the key center, inversions/harmonized inversions, harmonized 7th's, the *"string transfer system"* prevents you from playing in *"locked"* fretboard positions, 7th chord inversions, piano chord voicings, and much more.
LEVEL **4** *Theory*	Chapter 13 Chapter 14 Chapter 15 Chapter 16 Chapter 17 Chapter 18	Diatonic Substitution Indian Rhythms Notes on the Guitar Key Signatures Circle of Fifths Reading Music	**6 chapters.** *"Sonic"* chord families, add new life to old tunes with *"diatonic substitution"* and *"re-harmonization"*, hot & crispy soloing over *"changes"*, radically improve your *"timing"* with Indian rhythms, actual pitch versus transposed, key signatures, parallel and relative keys, circle of fifths and cycle of fourths, rhythm charts and music reading, and more
LEVEL **5** *Scales*	Chapter 19 Chapter 20 Chapter 21 Chapter 22	Pentatonics Major Tonality Scales Minor Tonality Scales More Major and Minor Tonality Scales	**4 chapters.** Major and minor pentatonics, traditional patterns for soloing, blues scales and patterns, major pentatonics and flat 3 combinations, one-of-a-kind double-hybrid sound with the new *"L.A. major and minor pentatonics"* for westcoast-style soloing, major and minor tonality scales with their inversions. Full-blown modes, augmented scales, harmonized minor scales, harmonic minor (a favorite of Malmsteen & Paul Gilbert), melodic minor, doomy diminished scale for the *"mosh pit"*, Hungarian *"gypsy"* minor, oriental textures with the lust-inducing magic of Japanese major/minor pentatonics, etc.
LEVEL **6** *Sequences*	Chapter 23 Chapter 24 Chapter 25 Chapter 26 Chapter 27	Practice 1-2-1 + 2-1-2 Octaves Groups Intervals "CHOP SHOP"	**5 chapters.** How to development *your* practice schedule, left-side/right-side-of-the-brain command center, brain & body functions and how they affect your playing, mental fitness, how-why-when to practice for maximum results, and vitamins for *"motor skill development"* (essential for all musicians!). *"Chop Shop"* includes lethal-speed modular soloing sequences, intervallic soloing sequences, groove-intensive phrasing with octave soloing sequences, crowd-surfing-style sweep picking, achieve shred-heaven with *"groups of 3's & 4's"* for ultimate soloing fills, and much more.
LEVEL **7** *Advanced Harmony*	Chapter 28 Chapter 29 Chapter 30 Chapter 31 Chapter 32 Chapter 33 Chapter 34	Exotic Chords Harmonized Major Tonality Chords Harmonized Minor Tonality Chords More Harmonized Scales Nondiatonic Chords Open Chords Quartal Harmony	**7 chapters.** Covers extensions and alterations, *"transparent chords"* & how they *"rule"* in music, mercy-kill your friends & neighbors with bitchin' soloing & chord combinations utilizing *"harmonized Ionian"*, *"harmonized Dorian"*, *"harmonized Phrygian"*, etc.. Plus harmonized harmonic & melodic minor, major tool of musical expression are awesome flat 3 & flat 7 substitutions, V7sus4 chord, the focused & punchy Hendrix chord, sweet & bubbly open/close harmony, the new and fresh-sounding *"quartal harmony"* chordal system, and more.
LEVEL **8** *Systems*	Chapter 35 Chapter 36 Chapter 37 Chapter 38 Chapter 39 Chapter 40	Traditional Pattern Soloing Systems Formula Soloing Systems Slash Chord Soloing Systems Single Pattern Soloing Systems Changes/Chord Tone Soloing Systems Triad Soloing Systems	**6 chapters.** Shows the exclusive *"soloing systems"* used by the pros. 5 traditional major scale patterns and pentatonics, 5 traditional blues scale patterns, *"modal secrets"* including the connecting of modern 3-note-per-string patterns, *"formula"* soloing systems, killer chord categories and matching scale strategies for innovative soloing, hot-rodded *"slash"* chord and mode combinations, single pattern systems, locating *"matching scales"* for soloing, breathy *"open"* slash chords, playing over *"changes"*, chord tone soloing systems, test the outer limits of tonal frontiers with the *"triad soloing system"*, and more!

Acknowledgments

Extra special thanks to my wife Susanne for her belief, support, and love.

(Ich hab' Dich gerne!)

Many thanks to my mom and dad; my brother Chip; Hans and Sonja Pueringer; Mama and Papa Hagenauer; Roman, Elizabeth, and Julia Buttura; Beppo Wieser; Paul Hanson; Al Mangold; George Daniel; Franz, Andrea, Sophie and Oliver Stranz; Klaus and Polly Grismayer; Walter Hoffman; Ralf Meyer; Renate Hagenauer; Les and Linda Wise; the entire team at the American Institute of Music (A.I.M); Barbara Reichetzer; my very best friend Jon Lanter; Gerhard and Brigitta Burda; JL and her parents; Thomas Messer; Karen and Frank Schmitt; James Youhill; Lala (P.W.W.), Peter, Helga, and Erik Schott; Reinhold Brunholzl; Lydia Wutka; Tommy Berlin; Andy Wein; Christian Nader; Ingmar Horeth; Thomas, Stefan, and Rene; Alberta Bailey; Charlie Johnson; Melanie Welder; Tom and Joanne Busold; Paul Finke; my favorite dog Fletcher; pizza, chocolate malts, Cordon bleu, Sacher Torte mit Schlagobers, orange juice, and windsurfing; and the rest of my friends and colleagues for their direct and indirect support.

Introduction

Learning Without Speed Limits

What would happen if you could master *your* instrument and *your* music ***3 times faster?*** Ever thought about power-crushing those local guys and gals in less than a year with your music? Listen, everyone must cope with everyday pressures. You can either let the stress and pressure guide your life, or you can set your own schedule. Why not reduce the time and dedication needed to reach your goals and dreams by ***66%?*** **Radical Rules™*** provides the state-of-the-art in instrument technique and music theory. Designed to optimize the speed and quality of results when used properly, I am confident it will revolutionize modern musical instrument instruction and study.

Most guitarists/songwriters never get beyond basic folk chords, power chords and minor pentatonic scales. But, this is not entirely the fault of the musician. There's just too much information and technique to be absorbed –most methods, technique books, tapes and video's intimidate "would-be" players into using ***the same*** traditional voicings, ***the same*** traditional patterns, and ***the same*** traditional phrases. Whoa, it's no wonder the vast majority of musicians sound ***the same!***

Don't misunderstand me! It's always good to know what has gone on before us. If it's your goal and dream to imitate other players, Radical Rules will get you there! But, if you really want to create an individual trademark style and signature sound, you need *individuality* in your playing. By way of flexible insight, Radical Rules makes use of your unique personality and prepares you for world-class status.

Music School (yuk!)

After deciding to *really* get into the guitar, I found myself trapped in a world of musical redundancy and confusion. Yeah, it was "real cool" learning all of those new systems, shapes, terms, techniques, styles, patterns, etc., etc., etc.. But, each time I would perform, I always found myself returning to my favorite "pet" licks, patterns and comfort-zone. The newly discovered knowledge was having difficulties transferring from my control center (brain) and to my fingertips. It was really spooky! Here I was, a carbon-based life form (from planet Earth), with gear for maximum sonic impact, unable to squeeze the new info into my playing. Even while attending one of those high-tech guitar schools, I quickly discovered that the students were only *brain-learning* –they were just not able to transfer the freshly-learned knowledge to their fingertips. So, at the end of one year, most of the students left the school with loads of high-powered knowledge, but unable to perform with their instruments. As you could imagine, lots of dreams were shattered.

Something was needed to…

- ■ 1) Break-away from already pre-learned patterns *without* relearning everything on the guitar from scratch.
- ■ 2) Transfer new theory/harmony/guitar technique information from the control center (brain) and to the fingertips.
- ■ 3) Do it fast!

After 2-1/2 years of intense research, I developed the Radical Rules method of forcing those new concepts into my playing. This unprecedented, *integrated* system increases the results of practice time an incredible ***300%!*** So you'll be learning at a rate ***3 times faster!*** Compared to a traditional 10 year program, it is now possible to be at the same level of musicianship within 1 to 3 years. With this in mind, I rearranged my students' curriculum and Beta-tested Radical Rules. Wow, the results were tremendous! The rationale and generic technique of Radical Rules were immediately accepted by all students regardless of music style, and their skills were advancing at the speed-of-light. It just goes to show… *those who dare win!*

While it can also be used for bass and songwriting, Radical Rules is an overall approach to the guitar, focusing on the *performance*, the *understanding*, and the *expression* of one's musical ideas. All concepts are modular and generic, and can immediately be plugged into all styles of music regardless of your present level of musicianship. You'll see the how's, where's and why's to chords, scales and modes, and become a *thinking* musician rather than one who randomly cranks-off pre-learned patterns and shapes. Personalized guitar technique, practice schedules and weekly homework assignments are all included.

One last point. Music is supposed to be fun! It is not designed to be a competitive sport. Having fun with any topic will substantially reduce your learning curve. So, include the *Fun Factor* in your daily playing.

The *Magic* Formula

Serious about becoming a brain-drilling, tonsil-shredding musician in less than a year? Wanna mercy-kill those local guys with ballistic-type guitar technique and controlled, mega-speed stun-chops? How about becoming a bone-crunching, songwriting mercenary from planet earth? Radical Rules is amazingly easy due it's usage of powerful and efficient **Z-GRID™*** equal ratio tuning concepts –an accelerated design streamlined to minimize all learning curves. Zgrid will painlessly super-glue *complete* harmony, theory, and guitar technique into your brain and fingertips ***3 times faster*** so you can become the best possible musician/songwriter you can be.

It is highly recommended to go through Radical Rules chapter by chapter in the order presented. A great deal of time and effort has been allocated to create an integrated, flowing curriculum. Each chapter reinforces and prepares the reader for the chapter immediately following. This increases memory retention, streamlines the flow of knowledge, and decreases the chance of reader frustration. (i.e. reader frustration occurs whenever trying to absorb the wrong information at the wrong time.)

Radical Rules is divided into eight levels. Each level represents approximately one month of study. Numbered chapters are equal to one week of study. For example, in the first week it is suggested to cover Chapter 1/Tuning. It is recommended that you read and *reread* the chapter-of-the-week for only five days a week (i.e. the Party Plan Practice Schedule). At the end of every chapter is a *homework assignment* to be completed during the entire week. This repetition should guarantee incredible results. It may seem boring, but *time, comprehension, determination* and ***repetition*** are the keys to success.

If you want to learn at the speed-of-light, it's crucial for you to maintain contact with the outside world. ***Do not lock yourself in your room with your guitar!*** (Maybe you could join a band or give guitar harmony, theory, and technique lessons?) Any doubts or uncertainties with information found in this book, no matter how small or stupid, immediately go to a qualified teacher! This instructor could be the music teacher or choir director in your school or church, a knowledgeable friend, or an accomplished pianist. It's not important for the music instructor to be a guitar teacher. But, it is important for the teacher to be qualified! As a matter of fact, I recommend visiting an instructor a minimum of once every few weeks. (Just remember, it takes three times longer to unlearn the wrong information and relearn the correct info.) If problems still exist, feel free to contact me by mail through the publisher. Radical Rules contain upper-level harmony and theory concepts; locating a qualified instructor for some topics could be difficult, but not impossible.

It's important for you to become a *driver* rather than a *passenger.* Fighter pilots strap their vehicles on for greater control (to become one with their ride), not to survive Mach 2 crashes. The same philosophy applies to your instrument, and starts by clearly understanding the concepts in the brain before attempting to teach muscles and nerve endings. This takes a lot of time and concentrated effort to development. Just as an athlete prepares himself or herself for an up-coming event years in advance, you must do the same. By starting today, your realistic time-frame should be one year of education and an additional two years of applying this education.

One of the most important areas in Radical Rules is "Song-of-the-Week." This can be found in the homework section at the end of every chapter. You will be reminded to learn one new song each week for the book's duration (i.e. approximately 10-12 months, 40 chapters and 40 songs). The song selection will be yours. How you learn a song is not important ***–just do it!*** As with the entire homework assignment for that week, learn and repeat this same song for five days. Then, move on to the next chapter and a new song. One new song each week will provide you with automatic song analysis, chops, technique, ear-training, and a healthy repertoire of complete solos and songs. Learning new songs is a great confidence builder; you'll need lots of inner-confidence if you want to develop into a bone-crunching guitar "monster" or songwriting mercenary from planet earth. By the way, lots of guys and gals can play excellent, million mile-an-hour solos with perfect pitch. But, guitar playing is not just a show of technique. Rather, it should grab a listener's heart and paint pictures in their mind.

IMPORTANT It's recommended not to learn more than one song per week. Personally, it takes me three to five days for a song to flow smoothly and effortlessly through my fingertips. And, it makes no difference if I rehearse a song 15 minutes or 15 hours per day, the results are the same. Your body needs time to digest information, reconstruct an idea, and put forth a flawless product in fractions of a second from your brain and to your fingertips. You cannot force *Mother Nature* to do the impossible. It's important to develop the ability to understand and work *with* your body's limitations.

IMPORTANT Radical Rules cannot guarantee one's ability to learn. You are responsible for your own achievements!

It takes *time* and *concentrated* effort to develop into one-of-the-best. Unfortunately, money is a major reason why people are not able to continue the quest for achieving one's goals and dreams. Worrying about payments for rent and food will definitely break an individual's concentration on perfecting one's talent. Get control of your finances!

When practicing, beware of the P.L.O.M. syndrome (i.e. the *poor little 'ole me* disease). For motivation, hang a few pictures in your room to act as a reminder of why you originally purchased this book, and also why you're killing yourself practicing your instrument. To quote British statesman Sir Winston Leonard Spencer Churchill, no matter what happens… ***"NEVER GIVE UP!"*** Your goals and dreams are too valuable! Perseverance in the proper directions will help you to reach your destiny.

YOU CAN DO IT!

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CHAPTER

1

Tuning

The first rule in *serious* music has always been… ***"There are NO rules!"*** With this in mind, Radical Rules combines art and science with emphasis on three theories: **priority planning, repetition of pattern theory,** and **Zgrid equal ratio tuning.** Priority planning consists of four steps.

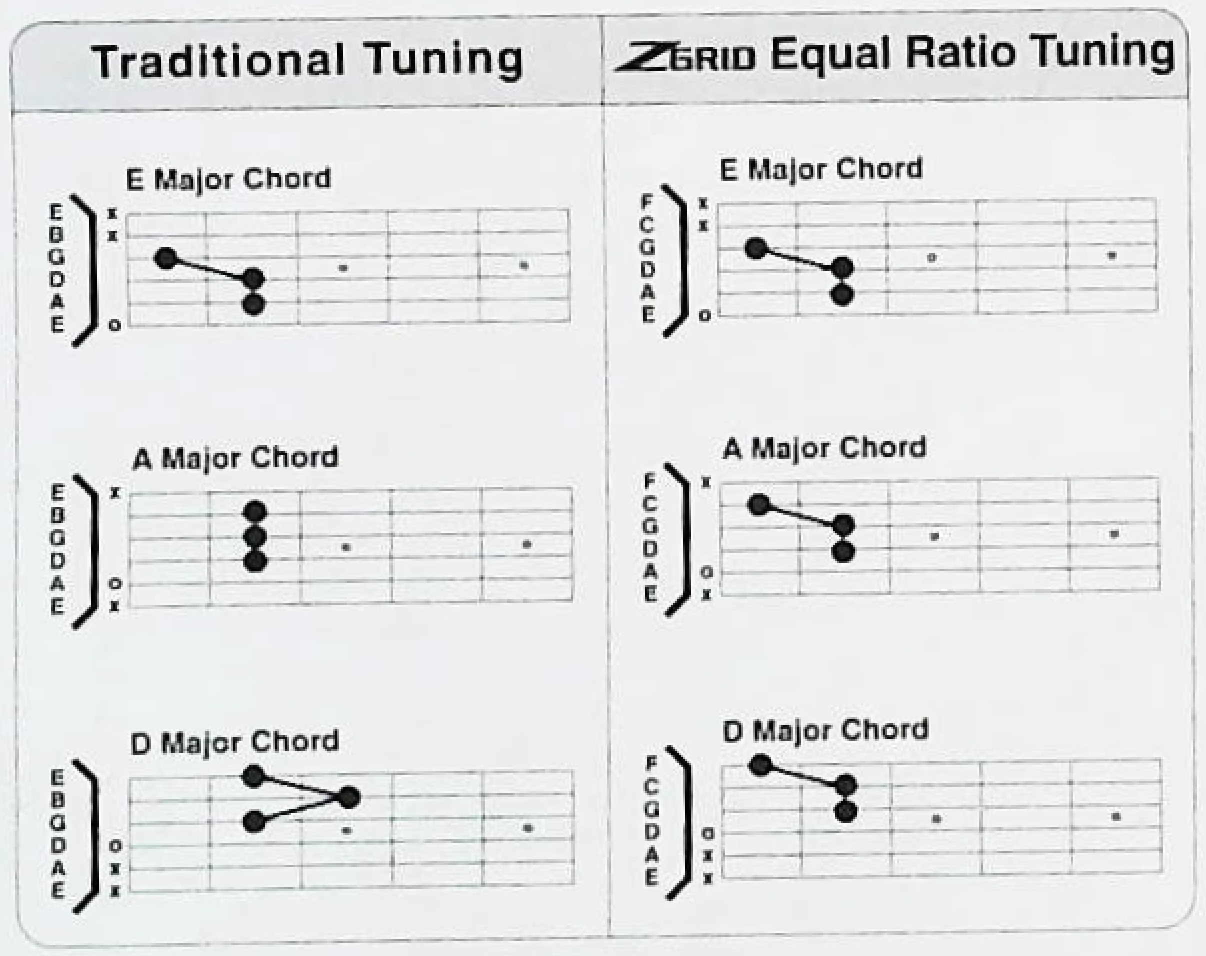
Step 1) Know your priorities. That is, what you *have* to do, what you *want* to do, and what you *like* to do.
Step 2) Have a priority agreement. Everything and everyone in your life needs to be placed somewhere in your list of priorities.
Step 3) Control your calendar. Everyone is already busy with *stuff*. Now you can replace the *stuff* in your life with priorities.
Step 4) Monitor your progress. Radical Rules (level 6) covers the art of practice and includes your practice schedule. During the past twenty years, we've discovered many things about the human brain and how it relates to the human body. So, don't waste valuable time, energy, and brain cells on *traditional* methods!

What did you say? You're a *traditional* guitarist? Is that why you're using high-tech rack mounted MIDI signal processors, state-of-the-art FET power amps, beefed-up replacement pick-ups, modified high-gain multi-stage tube preamps? Give me a break! Guitarists will do almost anything to obtain that wall-scorching "shred" technique on their instruments. Where would the modern music world be if everyone said Marshall® amps and Fender® strats were "#?*!" and *non-traditional?* Listen, your favorite guitarists are using a variety of radical tunings and systems to achieve their trademark sounds. How about you?

Traditional vs Equalized

Example 1-A shows the first three traditional chords learned by guitar players. These chord patterns are folk chords, with the term "folk" defined as the people's chord.

Example 1-A:



Now, check-out *Zgrid Equal Ratio Tuning.* By equalizing the ratios between strings, the three traditional chord patterns can be condensed into one "shape." Equal ratio tuning provides a realistic and effective approach with the use of only one pattern/shape to say the same which had previously required the using of three patterns/shapes. By eliminating two of the three shapes, we have reduced our work-load/learning curve ***66%!*** In other words, ***repeating*** the same pattern/shape will increase memory retention and motor skill development by an incredible ***300%!*** The bottom line is increased value for your practice time! Even if you don't have the ultimate guitar, amp, and effects "rig," you still need to combine *flesh* and *fretboard*… that's the bottom line. So why not work smart?

Tuning

The procedure for tuning the Radical Rules guitar is essentially the same as traditional guitar tuning. The most common tuning procedure is as follows:

■ 1) Go to the fifth fret or fifth position of a string, not including the 1st string or F string.
■ 2) Play this string (called string X, for example) at the fifth fret or fifth position.
■ 3) The next higher-pitched string (called string Y, for example) is directly adjacent to string X.
■ 4) Tuning Formula: string X played at the fifth fret or fifth position = string Y.

String names for the Radical Rules guitar (low string to high string) are E-A-D-G-C-F. Compared to traditional tuning E-A-D-G-B-E, only the two highest strings have been altered. The E and B strings have each been *raised* or *increased* by a *half-step.* In other words, the two higher-pitched strings have each been *raised* or *increased* by one fret. So, it's not necessary to relearn everything on the guitar from scratch. Rather, the guitar has become more efficient and streamlined.

The guitar is a very difficult instrument to tune, so check your pitch using two additional tuning methods. Once your guitar is set-up at the bridge for proper intonation, use *harmonics* during all instrument tuning sessions. For example, the harmonic played at the fifth fret should equal the harmonic played on the next higher-pitched adjacent string at the seventh fret. Still another tuning procedure combines note with harmonic. For example, the harmonic played at the twelfth fret should match the fretted note played at the seventh fret of the next higher-pitched adjacent string.

What About You?

Tuning your guitar with the Zgrid system is an excellent approach to demystifying guitar technique, music harmony, and music theory. It keeps everything apples and apples. But, if you prefer the apples and oranges approach, and wish to continue with traditional tuning E-A-D-G-B-E, the concepts found in Radical Rules will still be of value. The highly-structured, step-by-step, world-class curriculum is well worth the cost of this book. Zgrid equal ratio tuning is only one tool used to accelerate the learning process required for instrument proficiency. To continue with traditional tuning, adjust Zgrid info and diagrams to read one fret (or a half-step) higher than discussed or shown for only the two higher-pitched strings.

IMPORTANT If you decide to stay with traditional guitar tuning, it will take at least ***3 times*** more practice time to equal the same level of performance ability when compared to Zgrid equal ratio tuning. Do you really want to postpone your musical destiny by three years? Or, do you want to get radical and do it in ***10 to 12 months?***

Stuff

Grab a copy of *The Harvard Brief Dictionary of Music* at a music shop or bookstore. This paperback gives you another angle of the topics discussed within this book.

If the guitar is a new instrument for you, it would be to your advantage to *down-tune* your guitar to E♭ or D. This procedure reduces string tension and creates a more *playable* guitar. Tony Iommi (Black Sabbath) detunes his guitar to help create his signature dark sound. As a matter of fact, heavy-gauge strings are designed for down-tuning and not for A-440 tuning. Down-tuning has been a common practice with top players such as Yngwie Malmsteen and Edward Van Halen, and the late Stevie Ray Vaughan and Jimi Hendrix.

You should consider purchasing a *digital chromatic tuner.* This high-tech piece of gear will guarantee a perfectly tuned instrument 24 hours a day. (Make sure the tuner has a built-in microphone if you intend to play an acoustic guitar.) If the guitar is new for you, visit a local guitar teacher to help with tuning. Instrument tuning is just as much of an art-form as playing the instrument itself. Playing a tuned guitar is not only more fun, but it will definitely help to develop your "ear." By the way, ear-training normally takes years. So, be patient!

Are you really serious about playing guitar? If so, then one day you'll need to purchase a *music study recorder.* The Marantz PMD-201 and PMD-221 are G.I.T. cassette-recorders-of-choice. Both units offer two-speeds plus pitch control, a feature which prevents a lot of instrument retuning. These machines will remedy most problems found in stealing licks, ear-training and *transcribing.* Record yourself in order to gauge your progress and record all private guitar lessons with your chosen instructor. Highly recommended!

SECRETS If you're "into" soloing, be sure and check-out the *rake* technique. This high-tech, state-of-the-art picking technique is used by a lot of ace guitarists, and is virtually unknown. Dragging or *raking* your pick across muted strings *before* sounding the target string/note takes practice, but it produces a totally killer sound.

SECRETS Bend it, shape it, any way you want it. *Vibrato* is an important technique to master if you intend on soloing. I recommend a slow and very wide vibrato. For example, a vibrato width distance of 1/2 step, or even a whole step, at a slow tempo is ideal for emotional and expressive soloing. Focus on *feel* rather than technique!

Homework/Chapter 1

ASSIGNMENT ONE… You need to purchase a *digital chromatic tuner.* Don't settle for a normal inexpensive guitar tuner –it will not allow you to down-tune your instrument and is not designed to operate with alternate tunings. Hey, why do you think companies are manufacturing digital *chromatic* tuners anyway?

ASSIGNMENT TWO… Get some qualified help to show you 1) How to operate a digital chromatic tuner; 2) How to tune your guitar with the tuner; 3) How to down-tune your guitar to E♭ or D.

ASSIGNMENT THREE… "Song-of-the-Week." Select a song and learn to play it! And, I really don't care how you do it. Just do it!

THE BOTTOM LINE… Learn to tune your guitar! If you want to be one of the best, it's mandatory to learn the "Song-of-the-Week" and review this chapter for **one week before** continuing to the next chapter. Otherwise, you're just spitting into the wind.

CHAPTER 2
Major Scale

The major scale is what I affectionately call the *Do, Re, Mi Scale,* and is classically called *solmization*. This same scale we used to sing in grade school is, in fact, the basis for all western music. It includes musical styles such as rock, bebop, country, folk, calypso, swing, gospel, fusion, reggae, metal, christian, surf, classical, jazz, blues, new age, funk, industrial, hip-hop, etc.. Virtually everything in western music is derived from the major scale. So, this scale is ultra-ultra important!

IMPORTANT All scales consist of *half-steps* and *whole-steps*. The half-step/whole-step formula for the major scale is 2-2-1-2-2-2-1 and is defined as follows:

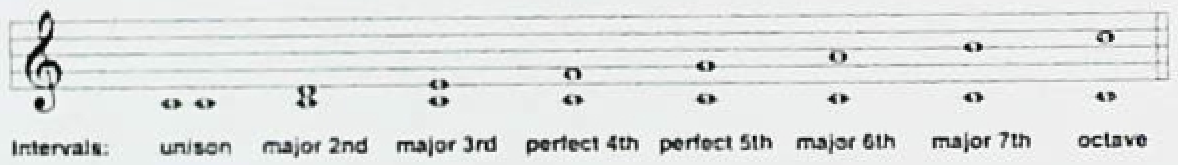
- "1" is equal to one half-step or one fret.
- "2" is equal to one whole-step (two half-steps) or two frets.

Degree/Interval

Scales are also described in *intervals,* a term referring to the distance between two notes or tones. As you become more involved with music, you will begin to discover that *formulas* are used to describe and create chords, intervals, and scales. A formula is a numbering system in which each note or tone in a scale is assigned a number or *scale degree,* the relationship being its distance from the *tonic* or *root*. The names of the intervals are derived from the distance between the tonic or root and each target note or tone in the major scale. *Example 2-A* demonstrates the distance, interval, and formula number from the root of the C major scale to each of its degrees. Note names for the C major scale are C-D-E-F-G-A-B-C.

Example 2-A.

Key of C Major	Distance	Interval	Formula Number (scale degree)
C	Root	————	1
C to D	Root to 2nd Degree	major second	2
C to E	Root to 3rd Degree	major third	3
C to F	Root to 4th Degree	perfect fourth	4
C to G	Root to 5th Degree	perfect fifth	5
C to A	Root to 6th Degree	major sixth	6
C to B	Root to 7th Degree	major seventh	7



IMPORTANT The first seven letters of the English alphabet are *always* contained in the major scale. *Accidentals* are then applied to these seven alphabet letters when necessary. More on this later.

Perfect 4ths

When talking with friends, and would like to explain Radical Rules guitar tuning, only say you're using an alternate tuning. If these same friends want to know the specific name or type of alternate tuning, you can say *"I tune my guitar in perfect fourths."* Intervals of perfect fourths is correct music terminology for describing Radical Rules/Zgrid equal ratio guitar tuning.

Most of those memorable songs created by your favorite artists rely heavily on various alternate tunings. Guys like Crosby, Stills and Naish, Peter Frampton, Jimmy Page, Yngwie Malmsteen, Zakk Wylde, Sonic Youth, Leo Kottke, Ry Cooder, Richie Havens, David Bromberg and others make use of non-traditional guitar tunings. If you're fortunate enough to locate some serious transcriptions, you'll see that loads of your favorite tunes were actually performed using some form of alternate tuning. New tunings seem to effectively create new ideas in music. Here's a list of popular and not so popular alternate tunings:

D-A-D-G-A-D	(Indian-flavor sitar-like tuning)
D-G-D-D-A-D	
D-A-D-G-A-F♯	
C-G-C-F-C-E	
D-G-D-G-B-D	(open G, Hawaiian-style tuning)
G-B-D-G-B-D	(open G, Hawaiian-style tuning)
D-A-D-F♯-A-D	(open D tuning)
E-B-E-G♯-B-E	(open E tuning)
E-A-E-A-C♯-E	(open A tuning)
E-G-C-G-C-E	(open C tuning)
D-A-D-G-B-E	(dropped D tuning)
E-B-E-G-B-E	(open Em tuning)
D-A-D-F-A-D	(open Dm tuning)
E-B-E-E-B-E	(possible Leslie West acoustic tuning)

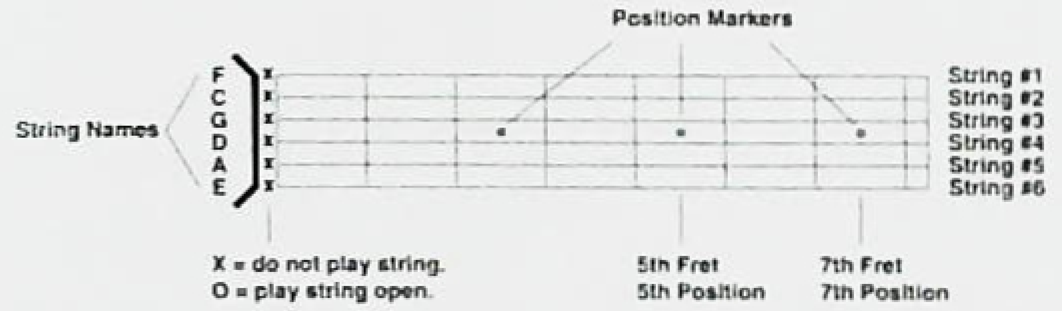
Strings 3-6 tuned-up one octave is a popular Nashville tuning. (Don't forget to change string gauges on strings 3-6 when experimenting with this awesome tuning.) For those who thrive on the cutting-edge, watch for TNT guitarist Ronni LeTekro's ***1/4-Stepper Guitar,*** an instrument designed to allow the guitarist to play in quarter-steps. It's a new guitar for new times.

Fingerboard Real Estate

Example 2-B presents the *guitar fingerboard/fretboard* in detail. Each string has two names –*number* and *alphabet letter*. The position markers aid in note/pattern location and recognition. Fingerboard or fretboard locations are also referred to by two names –*fret* and *position*. My personal guitar has side-dot position markers only at the 5th, 10th, 15th, and 20th frets. The uniform intervals of fourths make the fretboard a ***neutral grid*** (i.e. Zgrid) of strings and frets, ideal for creating music by shape, distance, and pattern. All solo *lines* and chords have permanent shapes which transpose intact *across* the strings, up and down the frets, and diagonally. By placing position markers every five frets along the fretboard, *intervallic* distances can be seen and measured. This technique forces me to always know the location of the *root* and *1st degree*. (The importance of this will be discussed in later chapters.) The absence of position markers on top of the actual fretboard meets my personal, no-frills preference for maximum guitar performance.

Example 2-B.

Guitar Fretboard

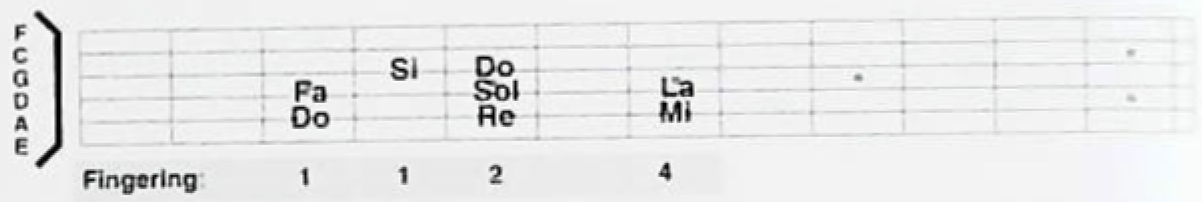


Example 2-C takes the C major "Do, Re, Mi" scale and applies it to the guitar fretboard using one half of the popular *Ionian 3-notes-per-string (3nps)* pattern widely used by today's hyper-speed players. Fingering is shown below the fretboard. **Fingers should *always* remain over their respective fret positions except during string bending.** This is a really big and wide *stretch!* But, with a little practice, this stretch will become second nature.

Example 2-C.

Ionian 3nps

key of C major, one octave

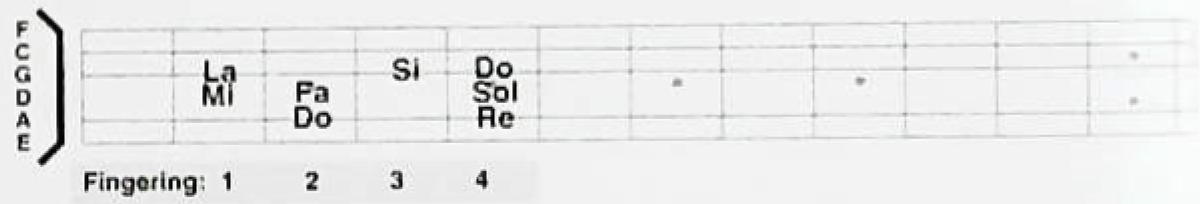


Example 2-D demonstrates the same C major "Do, Re, Mi" scale using *Traditional Pattern #2*. The fingering for this pattern tends to be more relaxed, and is highly suited for music reading because your fingers are locked in position. That is, one fret or space is allocated for each finger. This allows you to keep your eyes on the sheet music while your fingers work on auto-pilot. Again, fingering is placed below the fretboard diagram.

Example 2-D.

Traditional Pattern #2

key of C major, one octave

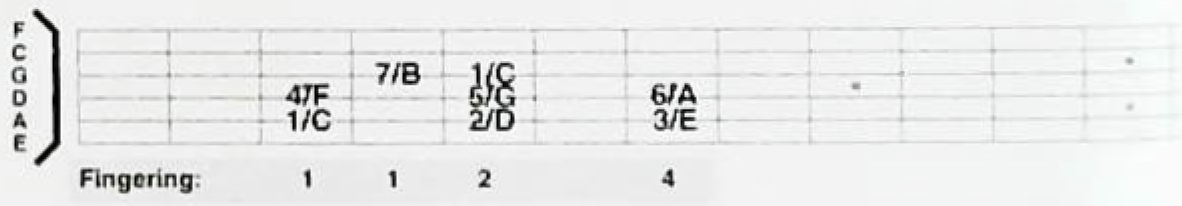


Now, let's check-out the fretboard diagram using formula numbers plus alphabet note names from the C major "Do, Re, Mi" scale. *Example 2-E* shows one half of the Ionian 3-notes-per-string (3nps) pattern over one octave. *Example 2-F* shows Traditional Pattern #2 over one octave

Example 2-E

Ionian 3nps

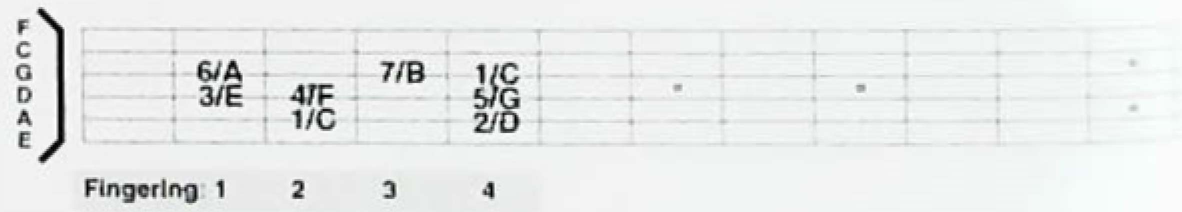
key of C major, one octave



Example 2-F

Traditional Pattern #2

key of C major, one octave

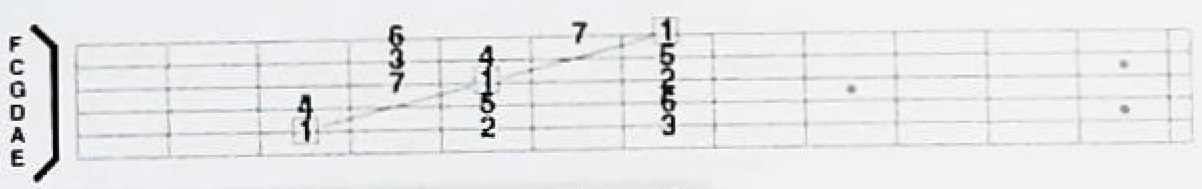


Next, in order to demonstrate the flexibility of the guitar and using only formula numbers, *example 2-G* will combine both one half of the Ionian 3nps and Traditional Pattern #2 patterns to create a two octave C major scale. This two octave pattern is commonly called the *Ionian 3nps pattern*. *Example 2-H* again combines the two patterns, but the reverse of *example 2-G* is shown. You must determine which pattern feels best for your fretting hand. At the same time, judge which pattern allows you to identify scales degrees or note numbers quickly and accurately.

Example 2-G

C Ionian 3nps

key of C major, two octaves

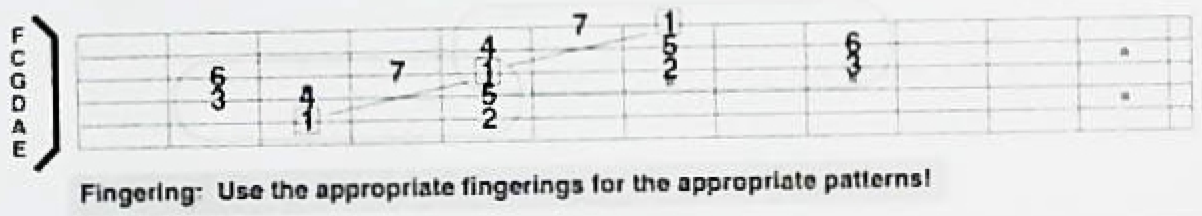


Fingering: 1 1 2 3 4

Example 2-H

Traditional Pattern #2 + Ionian 3nps

key of C major, two octaves



Fingering: Use the appropriate fingerings for the appropriate patterns!

IMPORTANT Be sure to check-out the location and pattern of how the same notes repeat octave by octave. It's simply a matter of following a 45 degree diagonal line. This makes note/scale degree location and recognition a breeze! By the way, the square around the number "1" indicates the tonic or root of the scale. In the examples shown, the squared 1's are "C" notes.

Dial 911

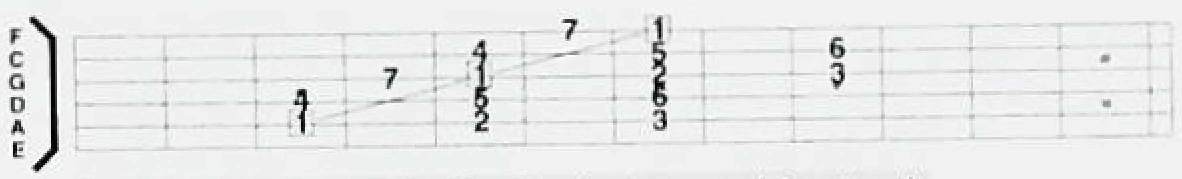
Example 2-I demonstrates my ultra-favorite major scale pattern, and is permanently super-glued in my brain. This is the same shape I personally use and recommend! (And, I don't break for wimps when I perform!) It stacks two Ionian 3nps one octave patterns on top of one another to create what I named the *Ultimate* ***Repeating*** *Major Scale Pattern* ***(URMSP).*** I stress the word "repeating" because this is one of the top-secrets for becoming a mega-speed, 6-string warrior. By *repeating* the same pattern over and over, you'll develop long term memory retention in your finger, hand, and arm muscles… because muscles also contain memory cells. This is one of the keys to becoming the best possible musician you can be.

As you will see throughout Radical Rules, I apply this pattern to just about everything because it's fast, easy, and produces incredible results. The URMSP pattern really does go above and beyond the call of duty. I use it for all single-note *lines* and *double-stop* improvisation. Plus, whenever it fits into a single-line, rapid-fire repeating sequence with alternate picking, I really burn with the URMSP. Chords are also developed with this pattern. So, dial 911 or reach for the URMSP during all performance situations requiring high-speed soloing! Mastery of URMSP sequences found in Radical Rules (level 6) will allow you to produce plenty of controlled, mega-speed stun-chops.

Example 2-I:

Ultimate Repeating Major Scale Pattern (URMSP)

key of C major



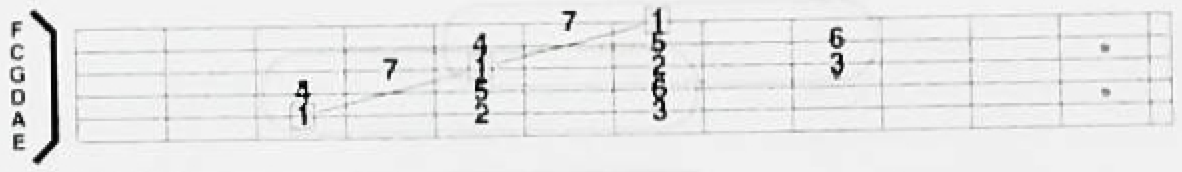
Fingering: Use the appropriate fingerings for the appropriate patterns!

Example 2-I continued:

URMSP Fingering

key of C major

Upper Register Fingering: 1 1 2 4



Lower Register Fingering: 1 1 2 4

Start-up Suggestions

If you're a new player, a few suggestions would probably clear-up some initial start-up problems. First of all, whether you fingerpick or use a pick, it really makes no difference how you hold or play your instrument. Since the guitar itself is such an unnatural instrument, playing tends to be a very personal and individual thing. You must adapt your body to conform to the guitar. Placement of frethand, picking-hand, and use of fingertips versus flattened fingers for fretting must also be determined by you. When performing in a sitting position, maybe you could cross your right leg over your left if you're a right-handed player (reverse for left-handers). This would force the guitar closer to your body in order to minimize frethand and fretarm stretches. Also, if you're just getting started, you will experience some pain on your fingertips and in your frethand.

WARNING! ***You can permanently damage your hands!*** The slogan "no pain, no gain" does not apply to learning an instrument. Attempting 3nps stretches takes enormous hand strength and dexterity –things normal hands do not have. You need to build-up and stretch the muscles in your hands, and this takes time. So, be patient! Your fingers and hands will increase in overall strength over a period of time just by playing each day. Additional hand exercises are not recommended! Hand exercises tend to stretch and strengthen the wrong muscles in a musician's fingers, hands, and arms.

WARNING! ***You can permanently damage your ears!*** In January 1995, rock wizard Edward Van Halen reported loss of all high frequency hearing (10,000 hz and above). The same can happen to you! Prolonged exposure to sound levels of 85 decibels produces gradual hearing loss. Above 100 decibels, even brief exposure can cause permanent ear damage. For example, rock concerts and walkman-type systems with headphones produce 110 decibels. So, always wear ear protection suitable for high frequencies and high volumes. It's possible to purchase and wear very small ear protection units which are virtually unseen by those around you. These units will reduce the sound by 35 decibels. Even while attending live concerts (and during high-volume practice sessions), slip some ear protection into your ears, because professional touring sound systems will impair one's high frequency hearing abilities. This is not a joke! ***If you want to be a musician you need your ears!***

Guitar Relationships

You need to develop a *relationship* with your guitar! That is, you must make the instrument a part of you. In order to achieve this somewhat mystical, esoteric bond, you (and not your local guitar repair shop) must simply *personalize* your instrument. For example, you could remove the finish from the back of the neck and replace it with tung oil in order to produce a fast, low-drag "feel" on your neck; change and/or replace the pick-ups, change the original fretwire to higher and wider profile fretwire, replace the tuning keys, replace the control knobs, etc.. Talking about pickups, look for a flat magnet pattern since it provides the balanced field necessary for an even response with modern strings and flatter neck radiuses. Also, softer magnetic fields create warmer, smoother tones and eliminate the brittle, glassy sound found in new instruments.

Personalizing your instrument with your own hands will provide a sense of comfort between you and your instrument, resulting in a substantial increase of music output, technique, ease of playability, and creativity. For myself, I prefer scalloped fretboards fitted with telephone pole-size #6000 Dunlop fretwire and *red* Dunlop Jazz III speed picks. (*Black* Dunlop Jazz III speed picks "sound" different.)

Homework/Chapter 2

ASSIGNMENT ONE… Perform all examples in this chapter. As you play through each example, you should sing the number (interval and/or scale degree) of each note. The combination of visual and audio always speeds the learning process. Singing the notes in tune with the guitar will also aid in ear-training. So, sing and/or name all single-note phrases each time you practice.

By the way, singing to yourself or aloud during soloing is a technique used by the pros to make their solos sound more human-like, rather than mechanical or machine-like. That is, each time you take a breath, you must also make a *pause* in your solo. This silence adds that extra *edge* heard in most solos performed by the pros.

IMPORTANT Talking about breathing, always be aware of how you breathe during performances and practice sessions. Holding your breath (and even gritting your teeth) while playing will reduce oxygen supplies in your body. This creates body stress and muscle tension, forcing you to slow your performance. It's mandatory for all musicians to maintain a normal breathing pattern.

ASSIGNMENT TWO… For each example, sing the alphabet letter name of each note.

ASSIGNMENT THREE… Sing and perform the above scales and assignments both *up-the-scale* (from low note to high note) and *down-the-scale* (from high note to low note).

ASSIGNMENT FOUR… "Song-of-the-Week." Do it! Use it!

ASSIGNMENT FIVE… Record your rendition of the "Song-of-the-Week" on cassette, and analyze what's good and what's not so good with your performance.

THE BOTTOM LINE… Be able to do these assignments in your sleep! If it's your intention to become a mega-horsepower, guitar soldier from planet earth, it's crucial to know scale degrees quickly and accurately. Don't forget, it's mandatory to learn the "Song-of-the-Week" and review this chapter for **one week** **before** continuing to the next chapter. Otherwise, you're wasting your time. Check Radical Rules (level 6) for practice schedules.

SECRETS Everyone's talking about modes, right? So what about *modal tuning*? Modal tuning contains the first, fourth, and fifth degrees of a major chord. Strum all six strings and you'll get a suspended fourth chord. By the way, modes are completely covered in later Radical Rules chapters.

CHAPTER 3

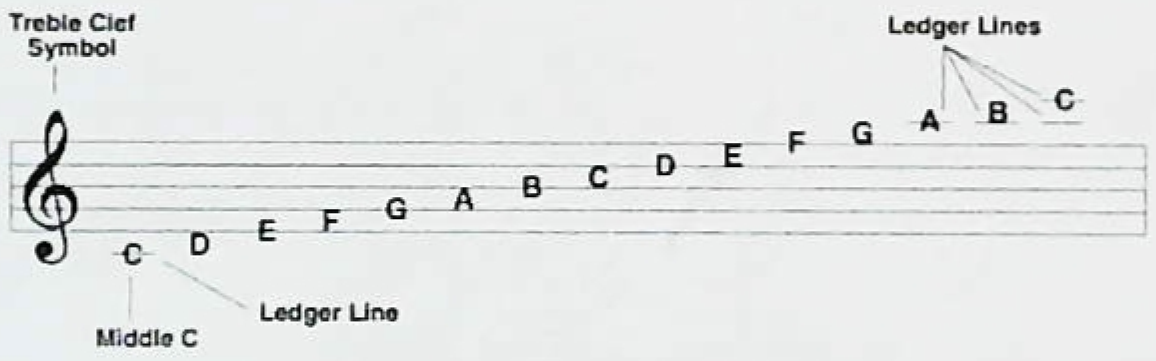
Notation and TAB

After spending a number of years in Austria working with music, I soon discovered that, if I wanted to communicate and understand the people, it would be necessary for me to speak the local German language. Music is really no different than learning another language. If you want to communicate, share, and understand music, it is essential to “speak” the language of music.

Treble Clef/G Clef

Example 3-A is a *staff* consisting of five lines and fours spaces. A *clef* symbol is placed to the extreme left. This particular clef is named *treble clef* and/or *G clef,* and is one of the two most common clefs. It is referred to as “G clef” because the note “G” is located on the second line from the bottom of the staff; the clef symbol curls and stops on this line. Each line and space on the staff is therefore assigned a name above and below this “G” location. (This is the first G ***above*** middle C.) *Ledger lines* act as temporary extensions for notes placed below and above the staff. The first seven letters of the English alphabet are *always* used to create the musical alphabet.

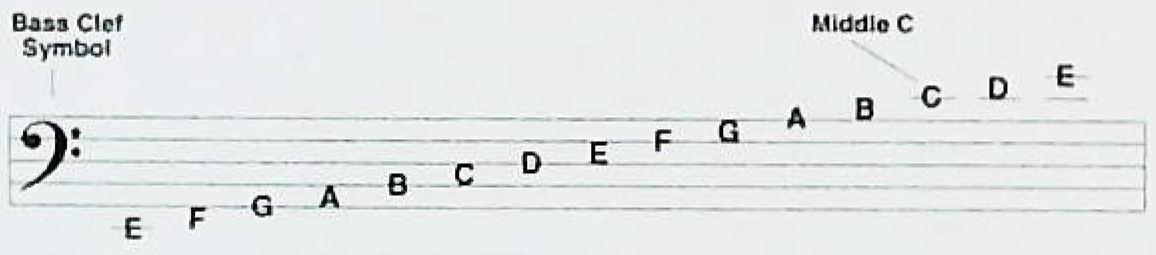
Example 3-A



Bass Clef/F Clef

The illustration in *example 3-B* demonstrates the other most common clef… the *bass clef* and/or *F clef.* The note F is located on the fourth line (the second line from the top) and is the first F ***below*** middle C.

Example 3-B



IMPORTANT Modern guitar is still a very young 65 years of age. The first electric guitar was invented in 1930 and patented on August 10, 1937 by George D. Beauchamp. Mr. Beauchamp, a steel-guitar player, joined Adolph Rickenbacker (a production engineer and later of Rickenbacker guitar fame) and began producing guitars. Since the guitar is so new, the instrument has many misconceptions. One major misconception is that many people believe the guitar is strictly a treble instrument. On the contrary, the *actual pitch* and/or *standard range* of the guitar includes both bass and treble clefs. That is, the low E note in the bass clef is the same *pitch* as the E string/6th string on the guitar. The confusion stems from the fact that most music has been transposed into the treble clef for the sake of simplicity. Be aware that both clefs do, in fact, pertain to the guitar. This allows you the opportunity to seek-out a wide variety of music normally written for other instruments and apply it directly to the guitar. Radical Rules (level 4) contains additional info on actual pitch versus transposition.

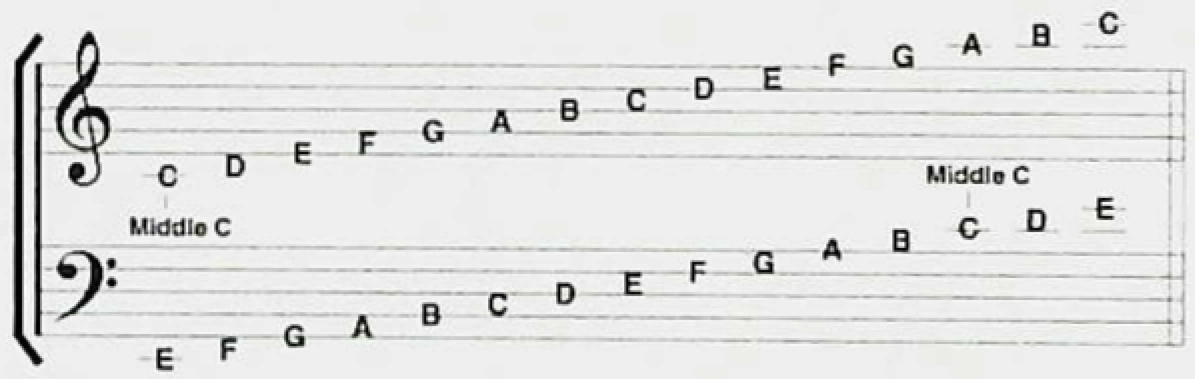
Grand Staff

The illustration in *example 3-C* shows the *Grand Staff.* This is the proper method for combining both the treble clef and the bass clef. Notice the large bracket left of the two staves, plus a thick line along side of the clef symbols connecting the two staves.

In order to read music it is necessary to be familiar with both clefs. But, throughout this book, I will primarily focus and refer to the transposed treble clef.

Example 3-C

Grand Staff



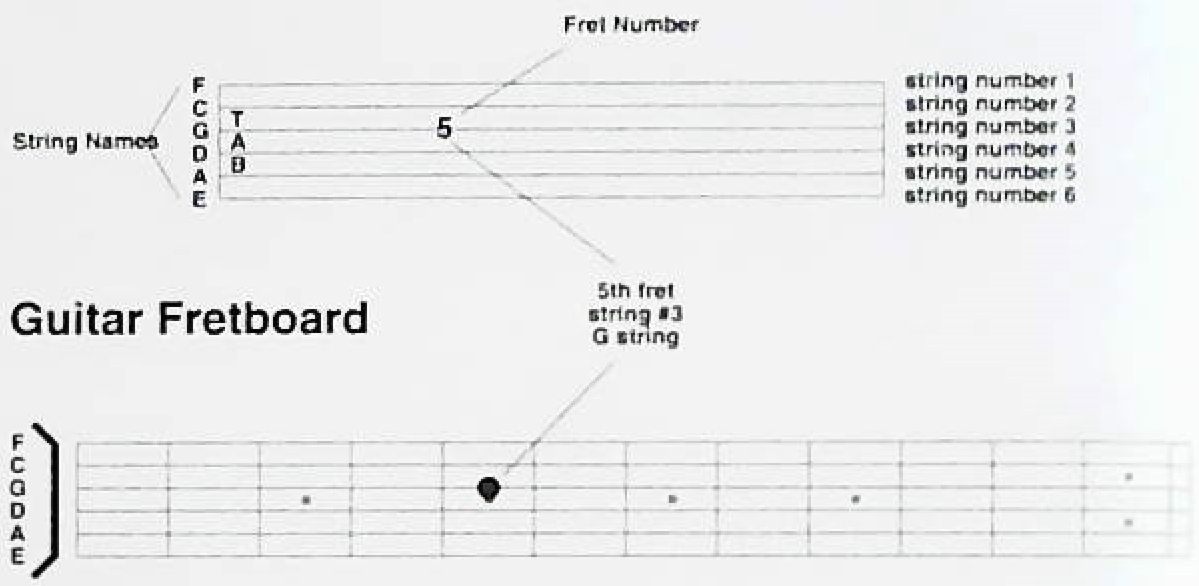
Tablature

The guitar is a very complex instrument. As a matter of fact, the guitar is a much more difficult instrument to play than a piano due to the multiple fingerings and patterns available. For example, on the piano it is only possible to play a one octave C major scale using *one* pattern. There are no other possibilities! But, the guitar offers a minimum of *eight* patterns for this same one octave C major scale.

Tablature, normally referred to as “TAB”, is a system of notation by which tones are graphically displayed with *numbers* placed on a six-line staff rather than *notes* placed on a five-line staff. The TAB system is actually a more precise method for locating fingerings, patterns, and shapes because it specifically pin-points all notes and their locations on the fretboard. For the guitar, traditional music notation unfortunately determines only the actual note or pitch and not the location. *Example 3-D* shows how to read TAB.

Example 3-D

Tablature

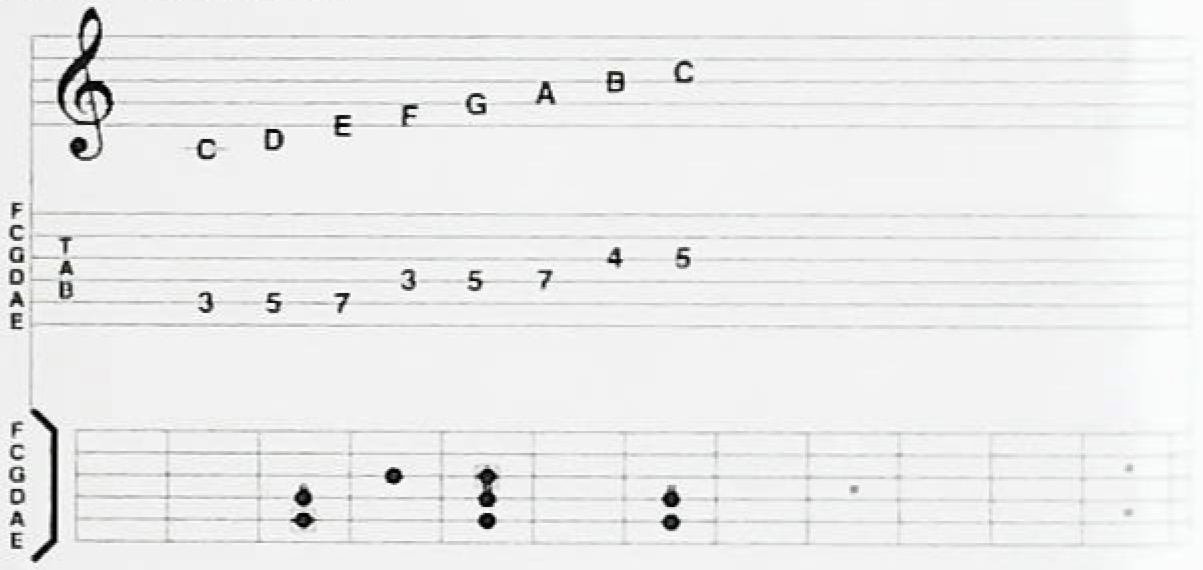


Example 3-E demonstrates eight possible patterns for the C major scale on the guitar using music notation, TAB, and fretboard diagrams.

Example 3-E

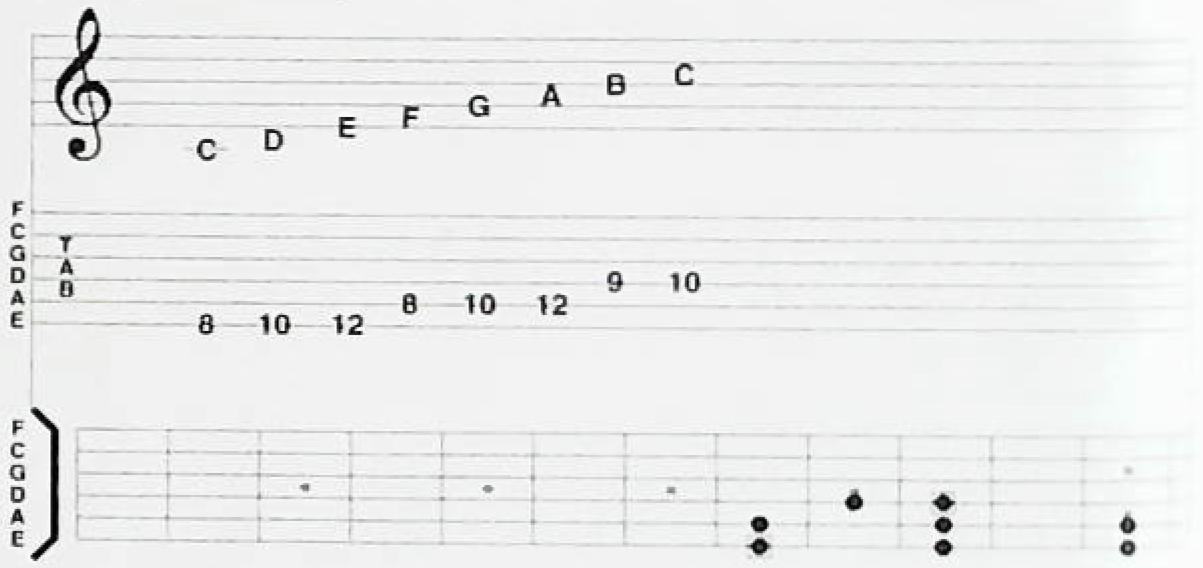
Ionian 3nps

key of C major, root on A string



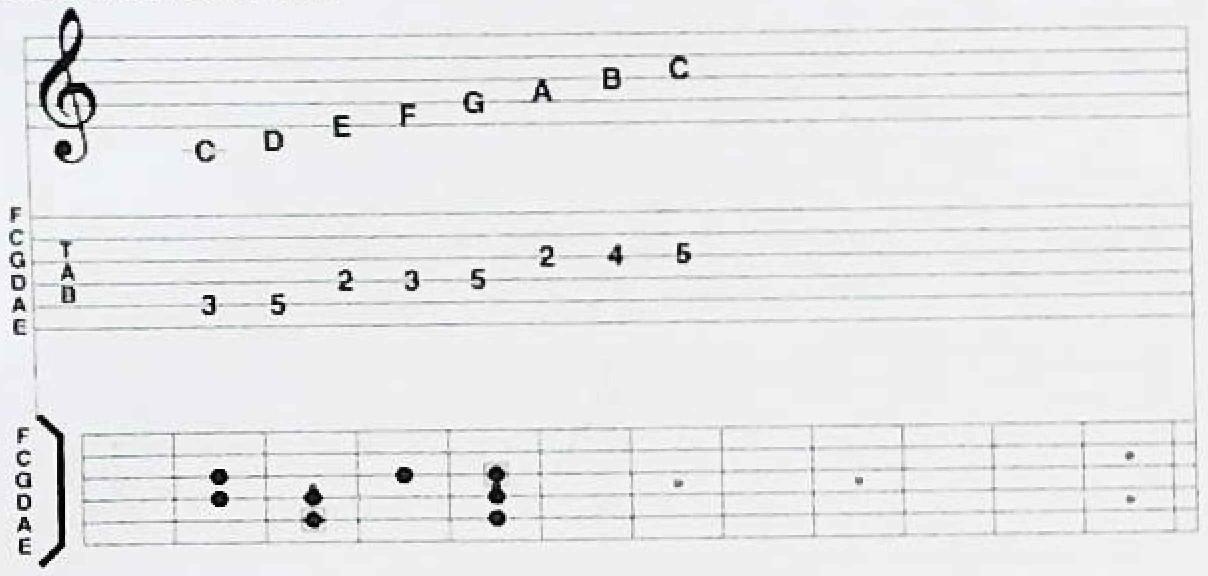
Ionian 3nps

key of C major, root on E string



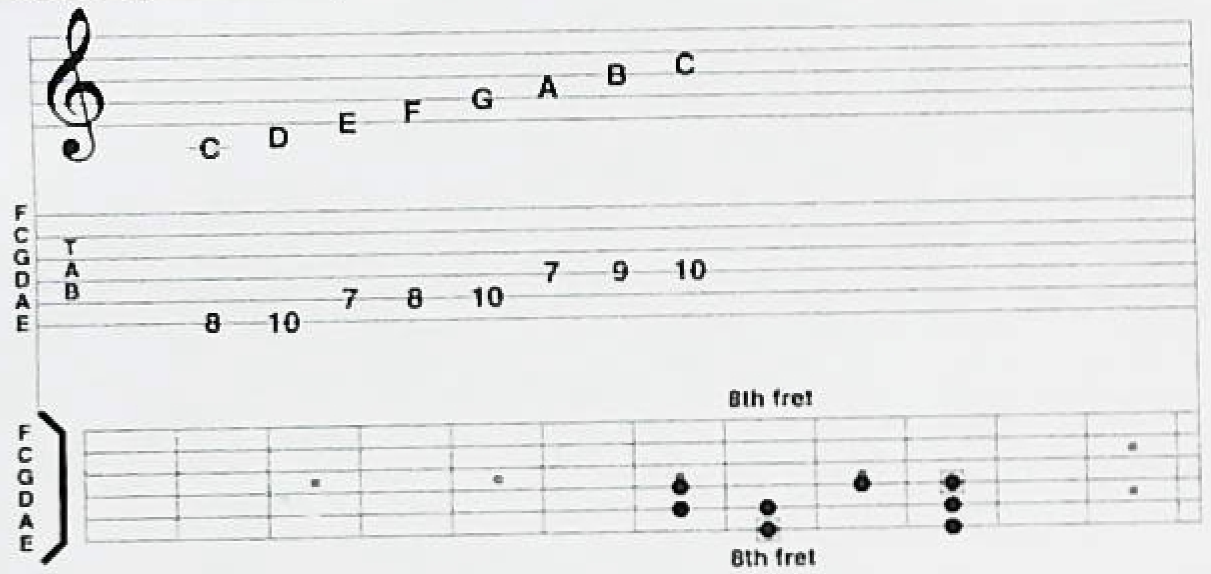
Traditional Pattern #2

key of C major, root on A string



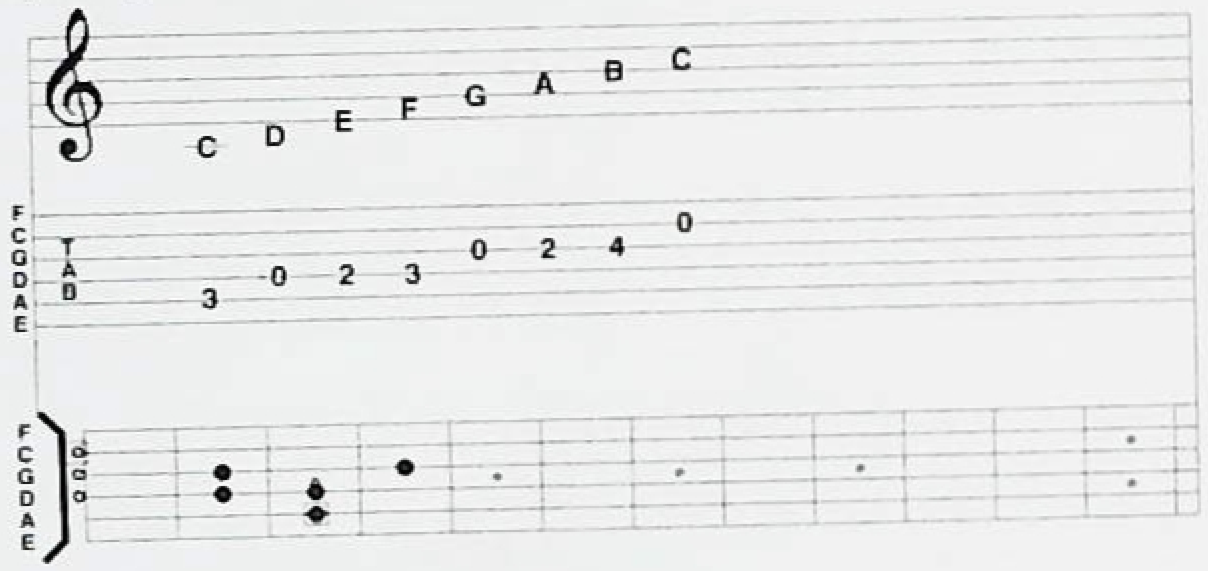
Traditional Pattern #4

key of C major, root on E string



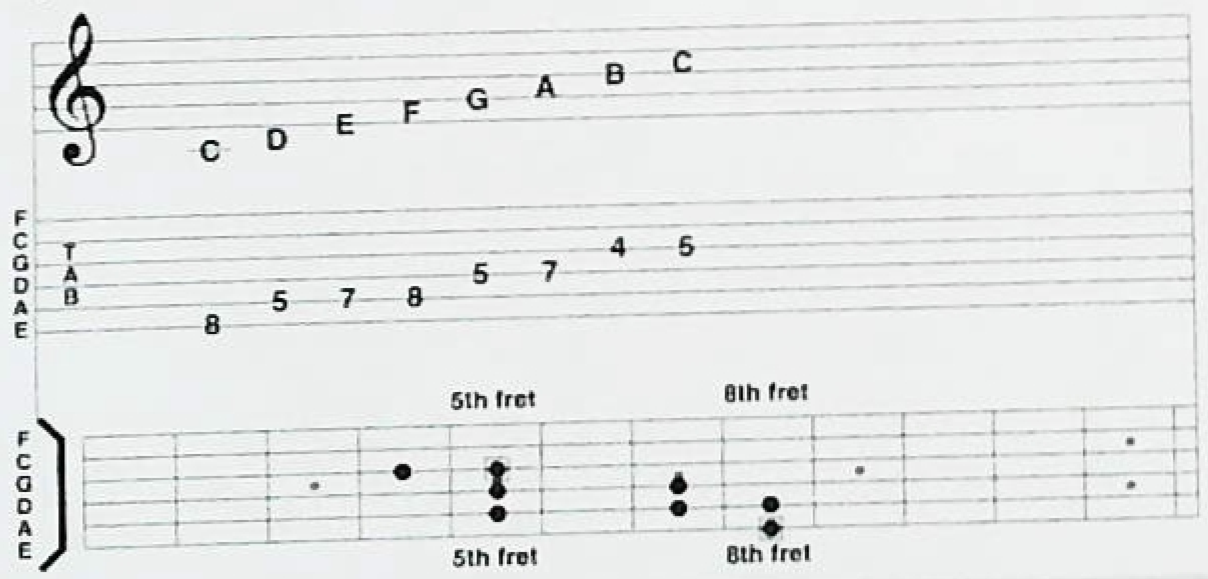
Traditional Pattern #1

key of C major, root on A string



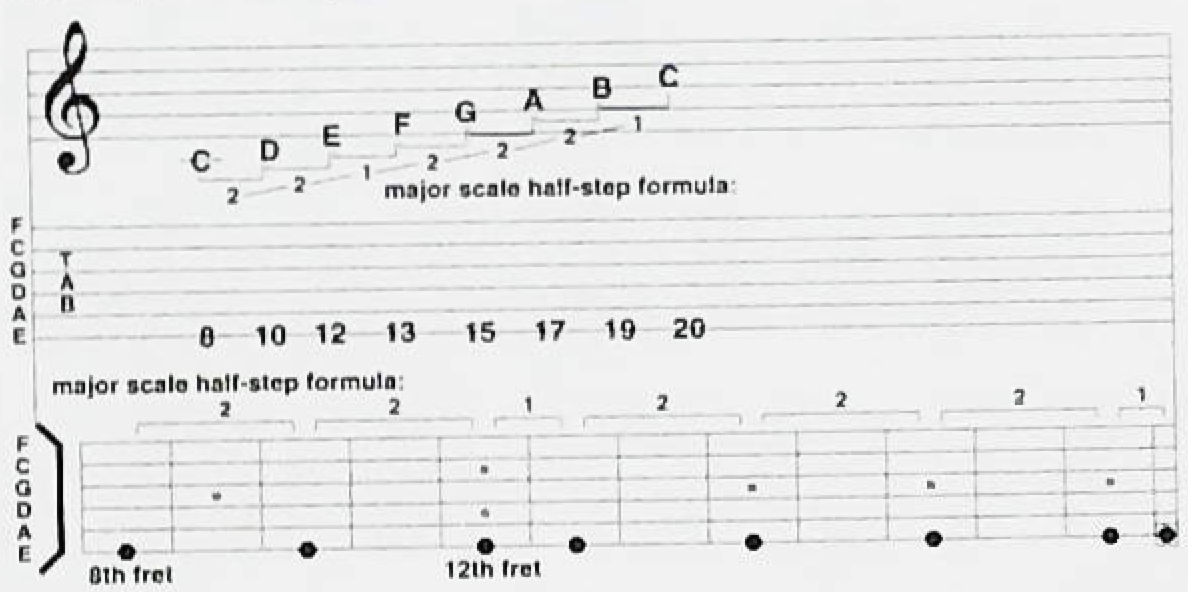
Traditional Pattern #3

key of C major, root on E string



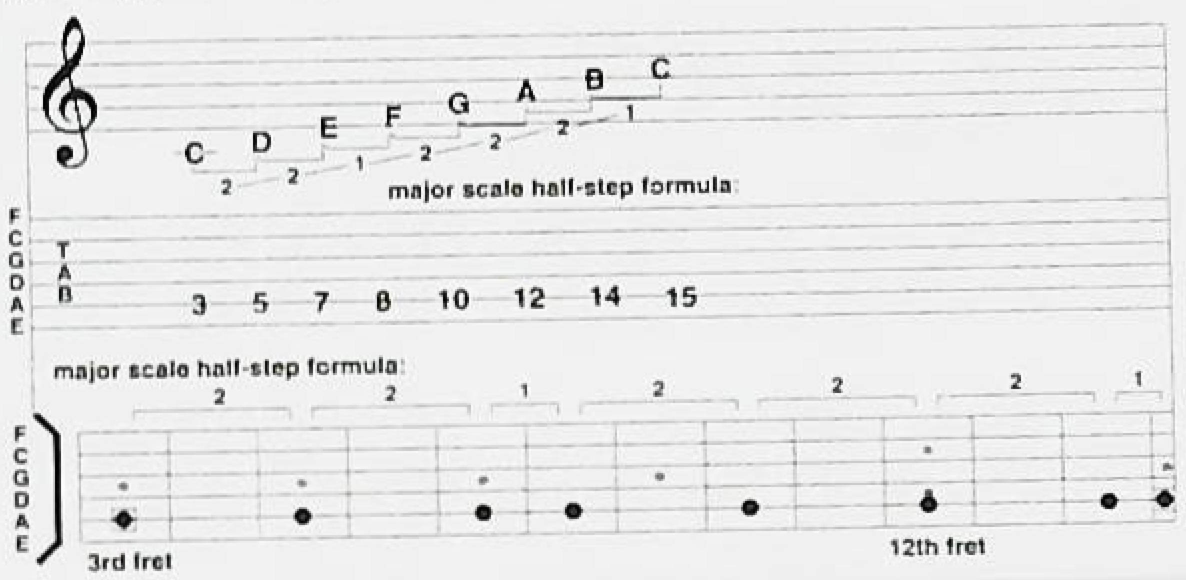
Single String Pattern

key of C major, root on E string



Single String Pattern

key of C major, root on A string



SECRETS It's possible to achieve a slightly psychotic effect with a technique known as *scooping*. Trem-bar scooping can be achieved by:

- ■ A) Depressing your bar (commonly referred to as a "pre-dive").
- ■ B) Picking/strumming one or more strings (bar still depressed).
- ■ C) Quickly releasing the bar.

The key to mastering the scoop technique is to develop trem-hand/trem-bar sensitivity. That is, you'll need to depress the bar to the desired distance *before* sounding the target string/note (pre-dive). With some practice and patience, you'll develop the sensitivity required for effective, world-class vibrato bar scoops.

Homework/Chapter 3

ASSIGNMENT ONE… Be able to sing the note numbers (intervals) and alphabet note names for all examples in this chapter, forwards (up-the-scale) and backwards (down-the-scale).

ASSIGNMENT TWO… Write a two octave C major scale in both notation and tablature using the treble clef.

ASSIGNMENT THREE… Write a one octave C major scale in both notation and tablature using the bass clef.

ASSIGNMENT FOUR… Using every other note, write a two octave C major scale in both notation and tablature using the treble clef. The octaves should be written low note to high note, and reverse from high note to low note. Be able to sing the note numbers (scale degrees or intervals) and alphabet letter names –perform with your instrument and metronome. One beat of the metronome equals one note to be played.

ASSIGNMENT FIVE… "Song-of-the-Week." Select a song, learn to play it, record all assignments.

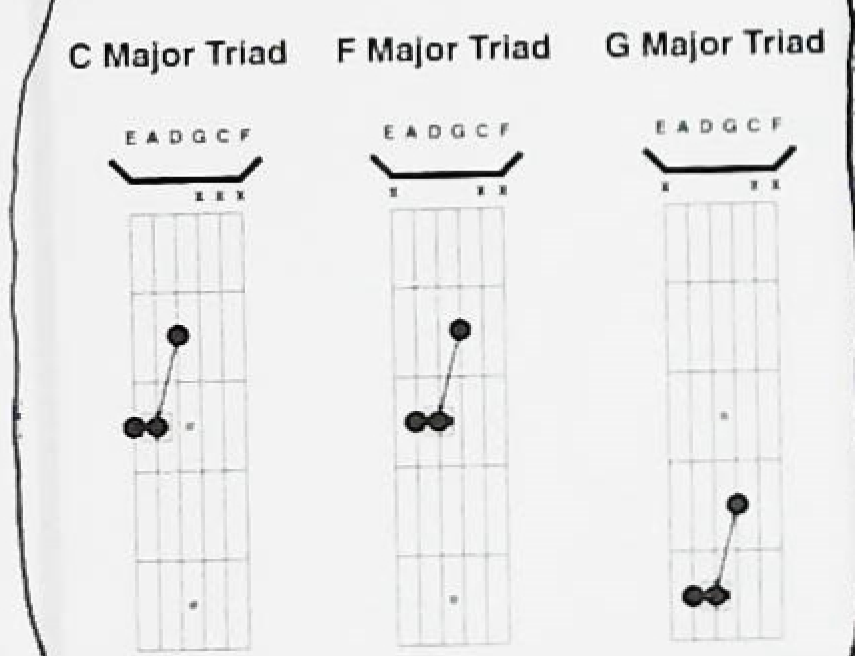
THE BOTTOM LINE… You need to acquire basic music and tablature reading skills! Don't forget, it's mandatory to review this chapter for **one week** **before** continuing to the next chapter. Check Radical Rules (level 6) for practice schedules!

CHAPTER 4

Triads

Are you anxious to create some *intelligent* music? You have already learned three *triad* chords in Chapter 1/Tuning. Using *vertical fretboard diagrams*, *example 4-A* will add three more triad chords to your vocabulary. In a chording or *rhythm* situation, triad chords are commonly referred to as "triads" in the music industry. But, in a soloing situation, the term "triad" has an entirely different definition and will be discussed in later chapters. *Diad* refers to a two-note chord. By the way, it's a good idea to know from where chords come.

Example 4-A



IMPORTANT Basic chords consist of tones and/or notes found within a *diatonic* scale. Chords are actually constructed by using every other note of a diatonic scale. More details can be found in Radical Rules (level 2).

Triads can be pretty "cool" chords to master. They keep things simple, uncluttered, and sometimes even more musical. If you're "into" technique, you'll discover that most top players incorporate some form of triad into their technique regardless of music style. Triads are the backbone of many trademark sounds such as those found in the music of Def Leppard, Prince and Van Halen. Triads are fast, easy, professional-sounding, and extremely effective.

It's important to determine which combination and/or sequence of chords sound best to you in a song. That is… Which chord is played first? What chord is second? What chord is third? etc.. Also, what is the relationship between these chords? That is, how does the second chord sound after the first chord? Good, bad, or just okay? Also, how does this second chord sound in front of the third chord? Does it create interest and tension? Or, is it predictable and boring? etc., etc., etc.. In fact, most pros hear a note *before* it is actually performed, and know what works and what doesn't work. So, it's up to you to develop your "ear" in order to *hear* effective soloing and chording combinations.

Homework/Chapter 4

ASSIGNMENT ONE… Write and perform an original song using the above three triad chords. Develop a melody and include lyrics to fit your song's chord changes. Be prepared to perform your song in class. This includes playing the chords and singing the lyrics. If you are not attending class, perform the assignment for a friend or on a cassette, be your own judge.

ASSIGNMENT TWO… "Song-of-the-Week." Do it and record it!

THE BOTTOM LINE… Check-out some music video's featuring your favorite players. Watch their fingers on the fretboard and you'll most likely see a wide variety of three-note triad chords in action. Get the sound of the triad into your ears and brain.

SECRETS Are you one of the countless musicians looking for the way to tonal salvation? Fact: players who don't use digital rack equipment always sound more musical. Why? Their tone tends to have both feeling and movement due to tube vibration. Listen, there's no music without glowing glass… tubes are fat, tubes are warm, tubes breathe. In your quest for tone, what do you want… dry, sterile tone or lust-inducing magic with the penetrating power of a razor-tipped Lamborgini? By the way, a fat, sonicly dense, hot-rodded amp will chew through power tubes faster than those skinny, wimpy stock tube amps. My personal touring amp sounds like an early Marshall® with the heat on (i.e. tight, articulate, no muddiness, lush bell-like overdrive, extra-thick like a deep-dish pizza, and smooth vintage with punch.)

Don't forget to spend at least **one week** on this and every chapter. If you think you're different and can fool *Mother Nature*, think again. It takes time to develop motor skills and long-term memory. If you really want to do it your way, maybe you should look for another profession or hobby, because you need discipline to be a musician/songwriter. Check Radical Rules (level 6) for more details.

CHAPTER 5

Counting and Chord Charts

Playing in "time" is just as important as hitting the right note. Today, you can find lots of players with the ability to dazzle audiences with super-hot licks and tricks. But, ask the majority of these same players to perform with a band, or even with a simple metronome, and they crash and burn. Playing in "time" separates the men from the boys and the women from the girls. My private teacher and friend Paul Hanson (G.I.T. rock instructor and world-tour recording artist) once said: "When you play in *time*, musicians in the audience will come up and ask questions like… *do you modify your amps?*". The effect of playing in "time" is really a unique sound because so few musicians have the ability to effectively play in *tempo*. Guitar coach to the stars, Paul Hanson was guitar advisor to Michael J. Fox in the films ***Light of Day*** and ***Back To The Future,*** Parts I and II. Paul also appears in Part I as the bass player in Michael's high school rock group during the audition scene. Pick-up a copy of the film and watch for Paul. He's the guy with blonde hair, aviator sunglasses, and leather bomber jacket.

Paul Hanson

IMPORTANT ***Always practice with a metronome!*** Each time you pick-up the guitar, you need to turn on the metronome and count aloud or to yourself. Not only will metronomes keep your tempo in-check, they will also help to gauge your progress. I suggest a digital metronome with a headphone jack. These are a little more expensive, but definitely worth the extra bucks. The headphone jack allows you to keep count without disturbing your neighbors. Plus, it allows you to do the infamous *in-front-of-the-television-practice-schedule* for practicing those boring sequences while developing your motor skills. You'll also need a watch or alarm clock to keep your practice times restricted to a specific schedule. (I always use my mom's 60-minute kitchen clock.) Check-out Radical Rules (level 6) for an in-depth discussion on the art of practicing.

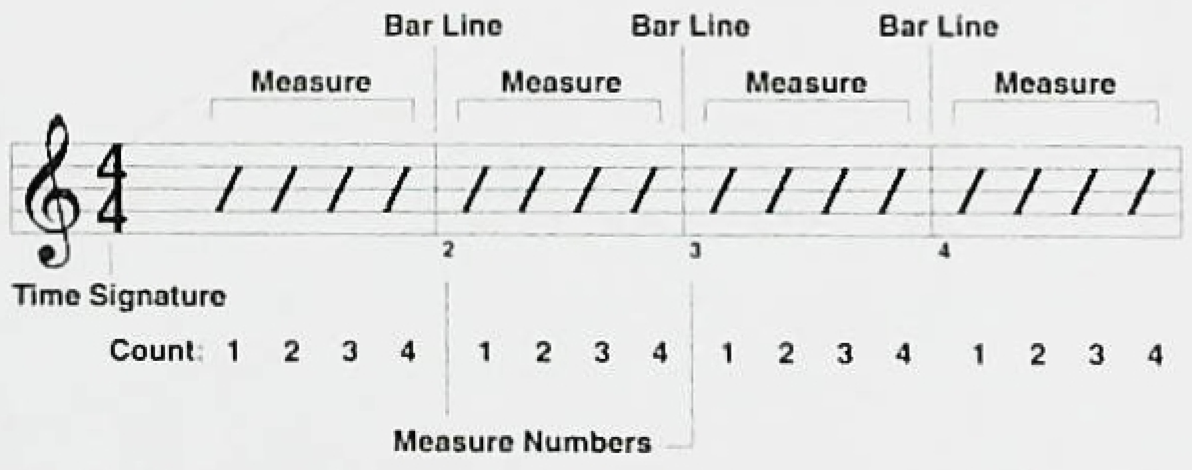
Chord Charts

Instrumentalists usually perform with *chord charts*. The standard *leadsheet* is the ideal roadmap for presenting melody, lyrics, and chords. But, chord charts are normally sufficient and often preferred by instrumentalists.

Chord charts consist of rhythm-figure notation called *slash marks*. Since most popular music is in 4/4 time (pronounced: "four-four time"), we'll be using *quarter note slash marks*. Briefly, this means there are four *beats per measure (bpm)*. *Bar lines* divide music into equal units of time called *bars* or *measures*. The four short vertical lines placed in every measure are slash marks, and each slash represents one beat. Also, measures or bars are sometimes numbered. This helps to locate specific sections of a chord chart during band rehearsals and studio dates. *Example 5-A* is the chord chart in detail.

Example 5-A

Chord Chart



Note… More details regarding *time signatures* are discussed in Radical Rules (level 2).

IMPORTANT ***Tap your foot for each beat!*** The tapping of your foot presents a physical signal to your body indicating time, tempo, pulse, and/or speed. This is also a good indicator to see if the other musicians in your band are in "time." You will notice most professional musicians tapping their feet during "live" performances. Again, this provides the physical clock necessary to establish "time." But, not all professional musicians tap their feet because they have developed an internal clock. Again, this takes years of experience.

12 Bar Blues

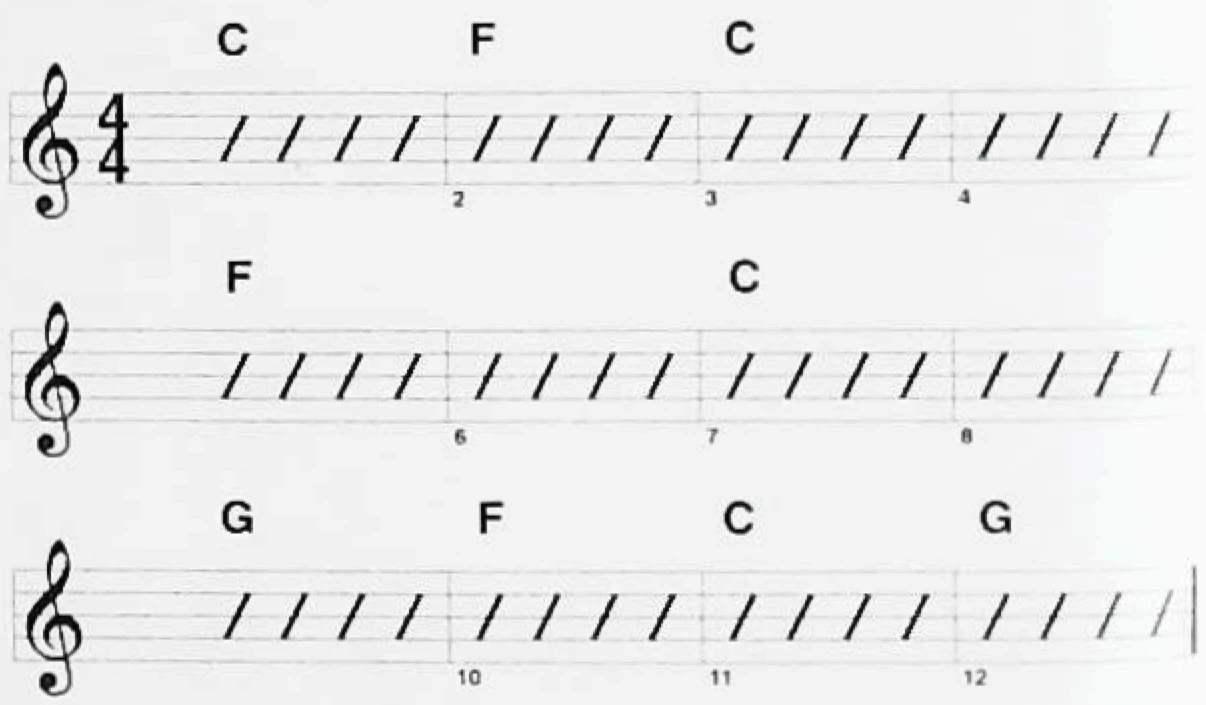
The illustration in *example 5-B* is a typical chord chart consisting of 12 measures. Also referred to as a *chord progression,* or just simply a *progression,* this chord chart is the infamous *12 Bar Blues* in the key of C major. Again, as you "jam" through this progression, be sure to use your metronome and tap your foot. With a *metronome marking (mm)* of 40 *beats per minute (40 bpm)*, one click of the metronome equals one slash mark or one beat. If you're just starting out, try a mm of 40 bpm and count four clicks for each slash mark. Since most digital metronomes do not count slower than 40 bpm, the more-than-one-click-per-beat procedure is the only available technique for producing slower tempos. After you can perform the progression flawlessly at this speed, increase to three clicks equal one beat and/or slash mark. Finally, increase to two clicks, and then one click equals one beat and/or slash mark. Next step, increase the mm to 41 bpm. Next step, increase the mm to 42, 43, 44, etc. bpm. Continue this increase until a musical tempo is reached. Practicing a little each day will guarantee results.

In *example 5-B,* alphabet letter names are placed above some of the slash marks. These indicate chords to be played (C major, F major, and G major chords). In the 12 Bar Blues progression, you should strum the indicated chord on the guitar for each beat or slash mark. This equals four strums of a chord for each one measure, and/or four beats per each measure.

Example 5-B

12 Bar Blues

key of C major



Homework/Chapter 5

ASSIGNMENT ONE… Write on paper and perform an original song using the chord chart format. As you perform your song, use a metronome and count aloud!

ASSIGNMENT TWO… Improvise a solo for your original song.

ASSIGNMENT THREE… "Song-of-the-Week." Don't wimp out!

ASSIGNMENT FOUR… After you feel comfortable with your performances, play the above assignment for a friend or into a cassette recorder; be your own judge.

THE BOTTOM LINE… Be able to play chord charts in "time" with a metronome. You need to develop the ability to make chord changes smoothly and effortlessly. How fast you play through a chord chart is not important! Maintaining "time" and/or tempo is the goal.

SECRETS The snare drum typically strikes on beats two and four. Of course, when you're satisfied with your timing, *odd meters* will get things sounding new and fresh.

SECRETS *Diads* are two note chords; i.e. *power chords* that can add extra dimension and color to your rhythm playing. Sure, the most common power chords consist of root/fifth combinations. But root/third diads come in major *and* minor flavors, and really kick when using tons of gain. Clean modes will force you to improve your rhythm playing at light speed. Power chords and complete chordal construction/voicings are covered in later Radical Rules chapters.

Don't forget, it's mandatory to learn the "Song-of-the-Week" and review this chapter for **one week** **before** continuing to the next chapter. Otherwise, you're just wasting your time. Check-out Radical Rules (level 6) for practice schedules.

CHAPTER 6

Song Form

Driving through unknown cities without a roadmap can be an unnerving experience. Music can produce similar effects on the listener's ears if a song's roadmap and/or *song form* is not adhered to properly. Everyone has heard songs that seem to go on and on with no sense of purpose or direction. You either get bored and lose interest, or perhaps you just get tired of trying to follow the song. Songs with good *form* permit the listener's ears to effortlessly *flow* through a rainbow of musically harmonious textures and passions. But, regardless of the type and/or style of music, all songs seem to have at least one thing in common… they all contain well-defined categories which function as repeatable patterns.

Song Structure

Most of today's hits are comprised of pattern and/or section combinations which act as building blocks for a complete song. The following are definitions and descriptions of traditional sections found in a song.

■ INTRO
The *intro* is typically a distinctive instrumental pattern located at the beginning of a song.

■ VERSE
The *verse* is the area of a song in which a story is developed via lyrics. The lyrics of each verse are different, but the melody and chords *(harmony)* remain intact.

■ PRE-CHORUS
As the section located between the verse and chorus, the *pre-chorus* prepares the listener for the up-coming chorus by varying a portion of the verse.

■ CHORUS
The *chorus* is the section in a song which repeats the melody, the chords, and the lyrics. The song's title and/or "hook" can usually be found in this section.

■ HOOK
Sometimes appearing at the end of the verse, the *hook* is a phrase which repeats and/or is emphasized in the chorus section. This is the portion of a song most remembered by the listener. The song's title is very often located in the hook section.

■ BRIDGE
As the section which appears only once in a song, the *bridge* contains melody, chords, and lyrics. As the name implies, the bridge provides a change in musical direction between verses, or between verse and chorus. Sometimes its purpose is to prepare the listener for a key change *(modulation)* and/or solo.

ABC's of Song Form

When musicians discuss a song's form, alphabet letter names are used to describe its sections. For example, a song's form such as ABABCAB (A=verse, B=chorus, and C=bridge) would be played as verse-chorus-verse-chorus-bridge-verse-chorus. It's also possible to have alphabet letter names for additional song sections such as the solo section and label them D, E, F, etc.. Lots of musicians use different alphabet letter names for a variety of different song sections. Other musicians refer to song sections simply as the verse, the bridge, the chorus, etc.. So, always ask the band leader for his or her song description format.

Demo's

Modern technology has once again provided musicians with unnecessary "tools" in the form of state-of-the-art multi-track recording equipment suitable for producing and engineering one's own music in the privacy of their home. Sure, it's "cool" to sit back and listen to your musical creativity. But, don't expect these "home recordings" to reach the ears of those big recording companies. Those massive, nationally recognized recording firms receive and dispose of literally 100's of unsolicited demo tapes from "wanna-be" musicians and songwriters on a daily basis. Unfortunately, the "real" business dealings in the music world are conducted by those who know someone, who know someone, who know someone, etc.. Of course, this is not an unusual business practice. The majority of all worldwide businesses including the food, automotive, medical and sports industries conduct business using this approach.

So, are your dreams to become a "star" completely unrealistic? Not by a long shot! When I had originally put this book together, it was my intention to effectively "help" musicians reach their goals quickly and thoroughly. But, I soon discovered that it was just not feasible to adhere to traditional concepts, ideas, and techniques for many music-related situations. For example, if you want to make a *professional* demo, then you'll want to "hire" a *professional* record producer. And, I'm not speaking about a local, part-time guy who owns a studio, is only open on weekends and evenings, and charges by the hour. You need a producer with a successful track-record; a producer capable of producing your style and "sound" of music.

So, how do you find these guys? Well, it's easier than you think. Just look for the producer's name on the list of credits found on your favorite LP's, cassettes, and CD's. The next step is to locate these producers. Most successful producers have their own studios, and you can usually get their addresses and telephone numbers from the record companies or from the musicians' management team.

At this point you'll need some outside help. Get someone who is capable of talking and negotiating with these producers on your behalf. Heavy-weight, in-demand producers like Bob Rock, Todd Rundgren, Jai Winding, Peter Wolf, and Desmond Child are normally booked six, twelve, and twenty-four months in advance, and require a deposit. Plus, you will want to pay by the "project," not by the hour. It's common to do a one song project for $10-$15,000.00. But, if your producer-of-choice agrees to do your project, he will *mold* you and your "sound" into a first class production. The recording process will typically extend from one to six months, so the price per hour from that local studio tends not to be so attractive. Plus, you'll be generating the ultimate music production. Upon the project's completion, the producer will then market your music to his friends at those national record companies. Be sure to discuss these and all details with the producer prior to commitment.

One last point. There are lots of excellent producers out there, so don't become frustrated if you're unable to work with your producer-of-choice. Good luck!

Copyrights

As a professional musician, it's important to protect against unrestricted and uncompensated use of your property. The Library of Congress states the following: "Copyright is a form of protection provided by the laws of the United States (title 17, U.S. Code) to the authors of "original works of authorship" including literary, dramatic, musical, artistic, and certain other intellectual works. This protection is available to both published and unpublished works. Section 106 of the Copyright Act generally gives the owner of copyright the exclusive right to do and authorize others to do the following:

■ ***To reproduce*** the copyrighted work in copies or phonorecords;
■ To prepare ***derivative works*** based upon the copyrighted work;
■ ***To distribute copies or phonorecords*** of the copyrighted work to the public by sale or other transfer of ownership, or by rental, lease, or lending;
■ ***To perform the copyrighted work publicly,*** in the case of literary, musical, dramatic, and choreographic works, pantomimes, and motion pictures and other audiovisual works; and
■ ***To display the copyrighted work publicly,*** in the case of literary, musical, dramatic, and choreographic works, pantomimes, and pictorial, graphic, or sculptural works, including the individual images of a motion picture or other audiovisual work."

This is only the tip of the iceberg. Contact the address below or call their 24-hour-hotline to request ***Form PA.*** The forms are free, but there is a small fee for the registration of completed forms.

Copyright Office
Library of Congress
Washington, D.C. 20559-6000
202-707-9100 (forms request 24-hour-hotline)
202-707-3000 (to speak with a copyright information specialist)

Record Companies

Wanna connect with a major label? The first rule is to only submit *solicited* recordings of your material. ***Never mail demo tapes/CD's to record companies!*** Unsolicited recordings are typically bulk-erased on a daily basis. If a company listens to your material, they'll only hear the first 5 seconds, fast forward and listen to another 5 seconds, and finally send your dream recording to the bulk erase room. These guys receive 1,000's of unsolicited tapes and CD's every year, and are in the business of *selling* music. They don't earn their bread and butter *listening* to music.

After selecting an entertainment attorney or management firm to present your material to a record company, there's one last rule. You need a fan club mailing list! This is no joke. Even though it may sound old-fashioned and outdated, your fan club mailing list is your *customer base*. If you don't believe me, why not look over the credits on some of your favorite CD's and see if a mailing address for fan club/band info is available? How do you think a record company will react once they're presented with your mailing list of approximately 10,000 potential customers waiting for your product?

How do you put a fan club mailing list together? Each time you play out, go from table to table and person to person during your break and ask for their honest opinion of your material. Be sure to say the following sentence when asking for an opinion: *"Your opinion will make a difference!"*. These six words will put people on your side, and they'll be more willing to offer their honest opinion. Next, ask if they would like to be placed on your mailing list for up-coming events and concerts. That's all there is to it. Not only is it painless, but it could launch your career. As a *successful* musician, you need to form the habit of doing the things *unsuccessful* musicians won't do. It's just as easy to form the habits of success, as it is to form the habits of failure.

Employment Options

What products or services can you offer? Working as a musician is like any self-employed person in a given field. You offer a product or service, do the best job you can, and gather enough customers to maintain a comfortable life. Real-world musicians spend their life working in several areas of the music business. Worthwhile occupations include teaching at home, in a music shop, in a school or university, roadie, touring and local gigs, acting as manager/agent, studio work, recording engineer, live sound reinforcement, writing and arranging for TV, radio, commercial and industrial films. With effort and luck, you'll realize your goals. Just give it some time.

Note... Don't fall into a trap! Just because others are imitating past musical styles doesn't mean you can't be successful performing your own stuff. People may have stopped trying to be different simply because originality gets in the way of mass-marketing yourself and your product. The Beatles didn't listen to the critics, so why should you? If you want to do your music your way, do it!

Homework/Chapter 6

ASSIGNMENT ONE... Analyze at least five of your favorite songs by determining their song form; locate all song structure sections.

ASSIGNMENT TWO... Write an original song on paper. Point-out the song form and all song structure sections.

ASSIGNMENT THREE... "Song-of-the-Week." Record and analyze all assignments.

ASSIGNMENT FOUR... Since you're a musician, you will always be asked to demonstrate your abilities. So, you'll need a *prepared* solo ready at all times. Locate a few solo and chord sections from your song-wish-I-could-play-it-list, and learn to play them. Your prepared solo should be performed flawlessly, and should be powerful enough to devastate your audiences. Prepared solos come in handy when auditioning for bands, impressing family and friends, and functions as an incredible confidence-builder. Plan to spend some serious practice time "working-up" your prepared solo.

ASSIGNMENT FIVE... What "type" of music do you play? As a musician, you will be asked to *describe* your music. Be prepared to portray your musical style using a few descriptive adjectives. For example, if you're a fusion player, say something like "I play *tightfisted* fusion," "*fusty* fusion," or maybe "*sleek* fusion." If you're a blues player, perhaps you could describe your style as "*tangy* blues," "*wet* blues," or even something like "*moist* blues." Don't forget, even top-players use descriptive adjectives to describe their sounds. Eddie Van Halen describes his sound as the "*brown* sound."

ASSIGNMENT SIX... It's review time! Do you still want to learn at the speed-of-light and mercy-kill the competition with your guitar in less than a year ? If so, it's crucial to maintain contact with the outside world. ***Do not lock yourself in your room with your guitar!*** You should consider joining one or two bands. Playing in a band at this stage should be done for fun and experience, not for financial reasons.

If you have not visited a local qualified music instructor this month, it's time to set-up a private music lesson. The instructor can be a friend, music teacher in your school, local musician, or choir director at your church. ***Outside "help" is required to reinforce all chapters found in this level!*** Plus, it's crucial to thoroughly understand everything found in the previous pages **before** moving-on to the next level. Don't "kid" yourself! Go and get some *outside* assistance!

THE BOTTOM LINE... As you listen to songs on the radio, television, compact disc, cassette, etc., try to visualize their song structure. Understanding other musician's song form techniques will help you to create smooth-flowing original songs and arrangements.

Don't forget to check Radical Rules (level 6) for practice schedules!

CHAPTER

7

Soloing

Every musician wants to solo! Maybe it's in our blood… who really knows? As a result, the majority of players really believe that soloing is extremely valuable. So valuable that they actually devote 90% to 100% of their total practice time to the *art-of-soloing*. Unfortunately, in the real world, guitarists are asked to play rhythm parts 90% of the time. And, to be honest, I firmly believe that to be a hard-hitting soloing guitar hero, you need to be a crispy, razor-hot rhythm player. Hey, check-out the pummeling rhythm guitar parts from Jimi Hendrix and Eddie Van Halen. They're absolutely bitchin'! Sure, I agree soloing is valuable… but at what cost?

IMPORTANT Be aware of how much time you devote to soloing versus rhythm playing during all practice sessions.

Style

Many guitar solos tend to sound similar because guitarists *feed* from one another. When guitar players hear another player who is better or different, they immediately want to emulate the player's sound and style. Sure, imitation is the sincerest form of flattery, but it is definitely not creating any new musical styles or trademark sounds. Hey, there's nothing wrong with duplicating another musician's style and sound, especially if you want to earn money as a *living jukebox* playing cover tunes. But, if it's your desire to build a new, highly personalized trademark style and sound, listen to other styles of music and other instruments. For example, Al DiMeola (one of the few guys who plays with both speed *and* finesse) really excels with a Spanish flare. From soaring, classically-influenced solo flights to flat-out savage power, check-out what Yngwie J. Malmsteen does with scales normally reserved for classical music. Yngwie, by the way, is one of the few legitimate guitar virtuosos on our planet.

Alternate Picking

As you're finding out, even if you're an experienced player, *picking* can be a major hassle when playing the guitar. One reason two-handed tapping has become so popular is because you can obtain lightning-speed within a short period of practice time. Synchronization between frethand and picking-hand is one of the most difficult aspects of the guitar. But, if you're just getting things together, and you're looking for some picking tips, check-out *alternate picking*. Sure, alternate picking is difficult. But, then again, anything new is difficult. On the positive side, once alternate picking is mastered, your *timing* will really fall into place. The down-up-down-up motion of the picking-hand acts like a clock subdividing the beat and/or *pulse*. Picking styles such as legato, circle picking, and sweep picking offer silky smooth sound and lots of speed, but you lose the feeling of physical time.

In many areas of the world, alternate picking is considered to be the ultimate picking style because each note pops like a 9mm machine-gun whenever you strike a string; a tone uniquely different when compared to sweeping, tapping, hammering, and pulling. Every note needs to be percussively attacked in order for it to snap, crackle, and pop. Alternate picking is probably the most difficult picking style to master, and can best be equated to running. As you know, when people run, they normally alternate between the left foot and right foot. That is, left + right + left + right etc.. You don't run left + right + left + left + right! Two lefts produces slower running speeds. The same philosophy applies to alternate picking. It's crucial to be aware of every up and down motion of the pick in order not to lose the feeling of "time" and slow your picking speed.

IMPORTANT Until alternate picking becomes natural, you must be aware of each and every stroke of the pick. For fast results, every single-note *line* performed should be alternately picked. The word "line" is the musical term for solo or melody line. Specific sequences utilizing alternate picking can be found in Radical Rules (level 6).

Thumb + Index Finger

So, you want to be a speed-picking *monster?* There seems to be a common trait between players that can pick fast, and those who can't. And, it makes no difference how you hold your pick or how your picking-hand connects to the guitar. Ultra-important is not to move the joints in the thumb and index finger of your picking-hand. These must remain rigid at all times during the take-no-prisoners speed-picking runs.

IMPORTANT Do not move the joints in the thumb and index finger of your picking-hand if you really want to "crank" at the speed-of-light.

Wrist, Forearm, Elbow

You will also find that as your metronome mark (mm) increases, the picking motion seems to extend from the wrist, forearm, and elbow. The wrist moves in a downwards direction and then returns. So, the actual picking is achieved through this wrist motion. Unlocked wrist motion seems to provide the fluency and flexibility required for slow tempo and medium tempo playing.

Higher speeds offer a different picking motion. As you move from impulse power to warp drive, say sixteenth notes at tempos above 145mm, the wrist automatically becomes locked. The picking motion now comes from the forearm and elbow.

IMPORTANT Learn to play with an unlocked relaxed wrist during slow to medium speeds. The wrist will naturally lock itself at high-speed laser-hot playing tempos above 145mm using sixteenth notes. ***Do not attempt to play slow and medium speeds with a locked wrist!*** A locked wrist with slow to medium speeds will not work, unless maybe you're an alien from the planet Zog!

Muting

The term *muting* is used to describe a picking technique which does not allow strings or overtones to ring and/or bleed into one another. Essentially, you must do whatever it takes to prevent string ringing and unnecessary noise. A combination of both hands is used. But, the picking-hand tends to perform most of the muting or dampening. I mute by using the palm and/or heel of my picking-hand rested on the bridge at the point where the strings cross the bridge. This gives me the tight and clean attack prevalent in my guitar's tone. Plus, when pushed through a "stack," it tends to add aggression and strength to the tone. The silent *art-of-muting* must be mastered by all guitarists.

Sound

The *sound* is always first and foremost! Technique is secondary. But, good technique does help to make you play and sound better. Think about it! After seeing an incredible *monster* musician *shredding* on stage, do people talk about his or her sound and songs, or to they discuss how the guitarist holds the pick, or does the performer play legato or sweep pick, or did the performer play faster than 165mm in 16th notes? Why do you think audiences always say "the band *sounded* great?" Sound is the name of the game! The audience is interested only in the sound. They are not interested in a musician's metronome marking (mm).

Standing or Sitting?

Now is the time to decide whether you will perform with your instrument while standing or sitting. Most players practice in a very relaxed state. That is, the majority of players *sit* while practicing their axes. Unfortunately, these same players are actually intending to perform while *standing* with their instrument. ***This is a BIG mistake!*** The angle of your hands and arms will change each and every time the body assumes a new position. Why do you think jazz and fusion players perform while standing with their guitars placed at very high positions on their bodies? I've seen many guitar players *burn* while sitting. But, as soon as they stand and lower the instrument's angle in relationship to their body, they crash and lose everything learned during those hours of misapplied practice. ***Keep those angles the same!*** Don't "kid" yourself into believing different positions will not affect your playing. The entire purpose of Radical Rules is to maintain *consistency* and *repetition*. So, decide what your image as a musician will be (whether you place your instrument around your knees, stomach, or upper chest) if it's your intention to perform while standing, sitting, or lying flat on the ground… ***practice in the same position as your intended performance!***

Systems

Creating a new style, or recreating an existing one, means the use of *systems* (i.e. methods or strategies used to make an instrument understandable and playable). They add fuel to creativity and safeguard the musician from repeating musical phrases. Using more than one system guarantees the prevention of predictable, boring music. Systems are detailed in Radical Rules (level 8).

Soloing vs Money

Do you want to "crank" and play fast? Want to make money playing your instrument? There seems to be an unwritten law stating the faster and more complicated you play, the less money you make. Check-out all of the incredible speed, skill, and technique that jazz and fusion players possess, then check-out their bank accounts. Next, look at players like Bob Dylan, Keith Richards and the guys in Def Leppard. Let's face it, these guys are not known for playing sixteenth notes at 175mm. But, check-out *their* bank accounts! Sure, it's okay if you believe in starving for one's art. But, you need food and a place to sleep. *Phrasing*, not technique, can make the difference between making a living with music or welfare checks.

IMPORTANT
Phrasing = $$$
Fast & Complicated = ???

Downstroke/Upstroke

It's time to solo! But, what scale do you use? *Example 7-B* is in the key of C major, and the C major scale will work within this key. Since the C major scale is *diatonic* to the key of C major, the C major scale is said to be *inside*. Playing scales with notes not completely diatonic to the key center are said to be *outside*. So, when playing a C major scale for the chord chart below, you can say something like "during my solo I'll play *inside*." This will let musicians around you feel that you really know what's happening!

Example 7-B is a 15 Bar Blues that also includes solo notation and TAB. The solo is very simple in order not to frustrate you. Notation and TAB are shown with the intention of forcing you to read only TAB and not notation. When you first look at *example 7-B* you will see the words "picking" and "fingers." "Picking" is the designated area in both music notation and TAB showing actual picking direction. The symbol "⊓" refers to *downstrokes,* or picking in a downwards and to the floor direction. The symbol " V " refers to *upstrokes,* or picking in an upwards and to the head and face. "Fingers" refer to the numbered fingers on your frethand, and is defined as follows:

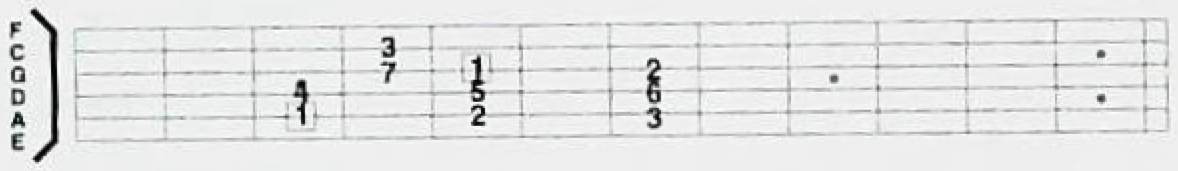
- ■ index finger = 1
- ■ middle finger = 2
- ■ ring finger = 3
- ■ baby finger = 4

Example 7-A shows the patterns used in performing the solo for *example 7-B*. Two discrete patterns are employed for this solo (*up-the-scale* uses the Ionian 3nps pattern, *down-the-scale* uses the URMSP pattern). This combination of patterns presents a very comfortable playing situation for my frethand and picking-hand. The objective is to seek-out patterns and pattern combinations that work for ***you!***

Example 7-A:

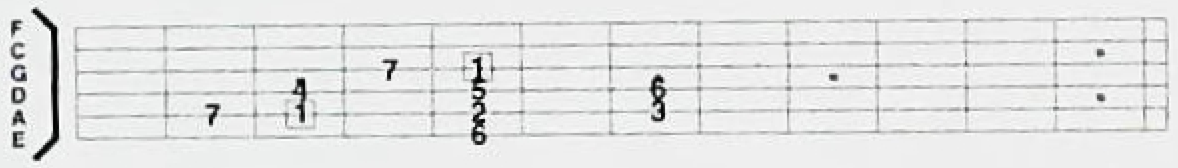
Up-the-Scale Pattern = Ionian 3nps

key of C major



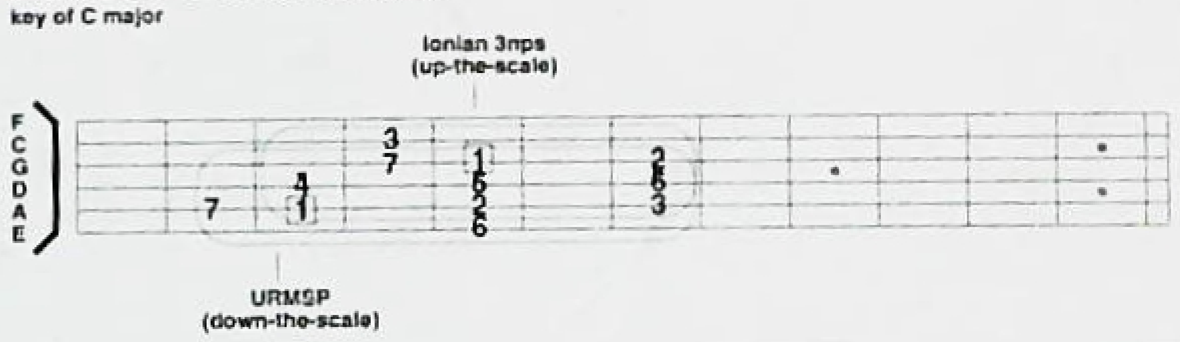
Down-the-Scale Pattern = URMSP

key of C major



Pattern Combination

key of C major



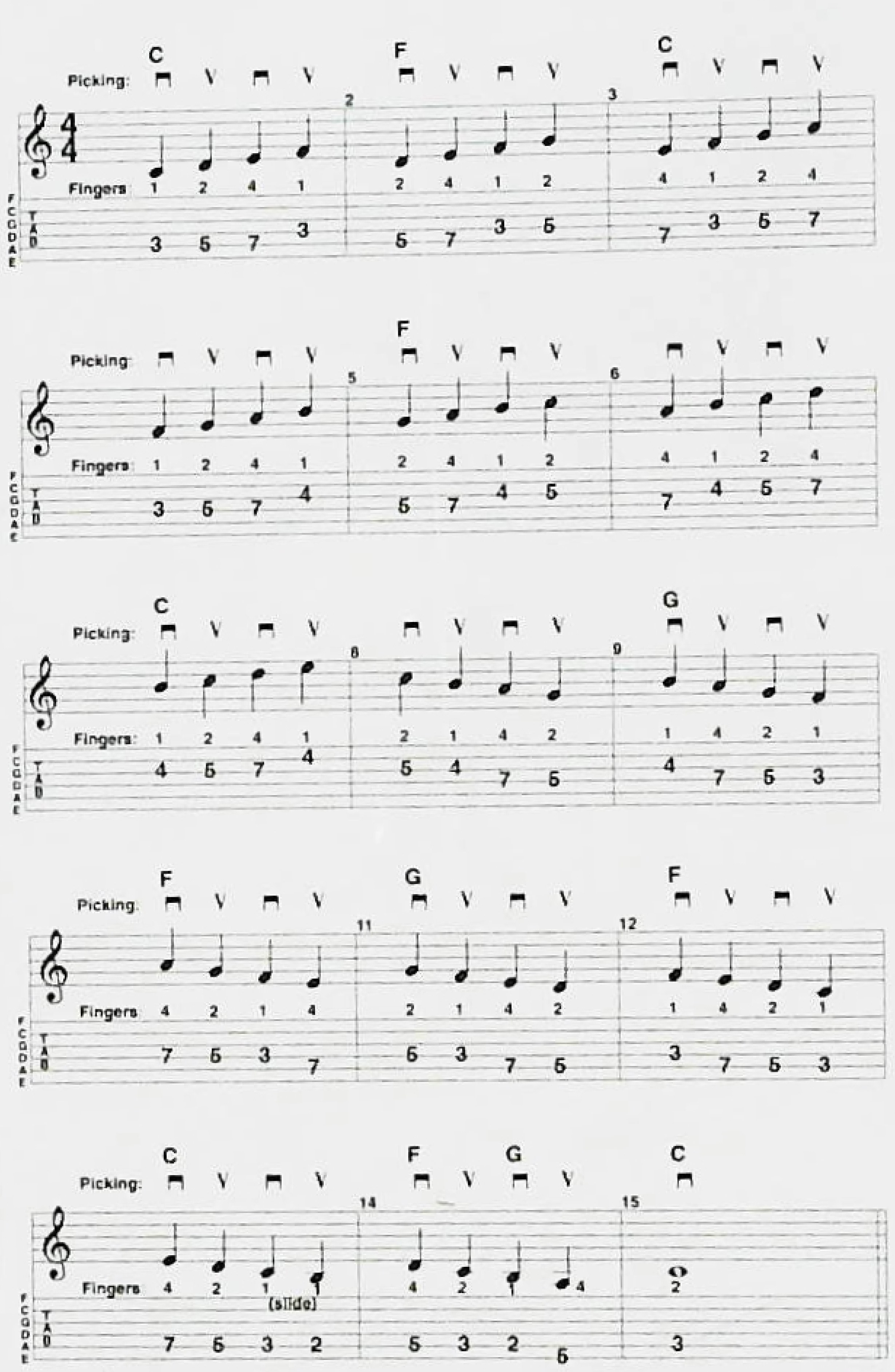
IMPORTANT To improve picking technique, pick everything ultra-hard, loud, and with 100% concentration and determination. "Loud" refers to the strength and overall output volume of your picking technique. It does not mean to "crank-up" your amp.

The solo in *example 7-B* is a sequence using *groups of 4*. Both modular and generic in nature, this sequence can be plugged-in and used in all of your songs, either as a chord fill or in an actual solo. You only need to slide the root and pattern to fit the correct key center. The solo in *example 7-B* is not a *picking exercise*. Personally, I don't believe in practicing things that can't be used in one's music. Groups of 4 sequences sound great at slow, medium, and fast speeds, and *rule* in all styles of music.

Example 7-B:

15 Bar Blues Progression with Groups of 4

key of C major



Take a Solo!

Okay, so you're jammin' a song with your friends and it's time for you to solo. The big question… what notes do you play? After some discussions with G.I.T. rock department head, world-tour recording artist and friend Paul Hanson, we developed a quick-question-answer soloing policy to aid in most soloing situations. When it's time to solo, answer and apply the following questions and directions:

- ■ 1) Determine the key center.
- ■ 2) Is it a *major key* or *minor key?* Yes Virginia, there are minor keys! (By the way, we have only discussed the key of C major.)
- ■ 3) What are the *functioning* chords within this key? That is, what chords are I, II, III, IV, V, VI, and VII? (Radical Rules level 3)
- ■ 4) What scales are available for this key?
- ■ 5) Find the *pentatonics* inside of these scales.

Homework/Chapter 7

ASSIGNMENT ONE… Write on paper and perform an original solo using the chord chart/music notation/TAB format demonstrated in *example 7-B*. Your song should include all finger numbers and picking symbols. Keep the solo simple until you're completely familiar with the *art-of-transcribing*. Use a metronome, tap your foot, and count aloud. If you desire to become the next fretboard "wizard", sing every note when performing all solos.

ASSIGNMENT TWO… Sketch a fretboard diagram of the pattern, shape, and/or pattern combination used for the above solo and explain.

ASSIGNMENT THREE… "Song-of-the-Week." Do it for **one week!**

THE BOTTOM LINE… Understand how to read/write chord charts, music notation, and TAB. Know patterns and shapes over various key centers. It's mega-important to decide how you will perform (i.e. sitting or standing); incorporate it in your daily practice routine.

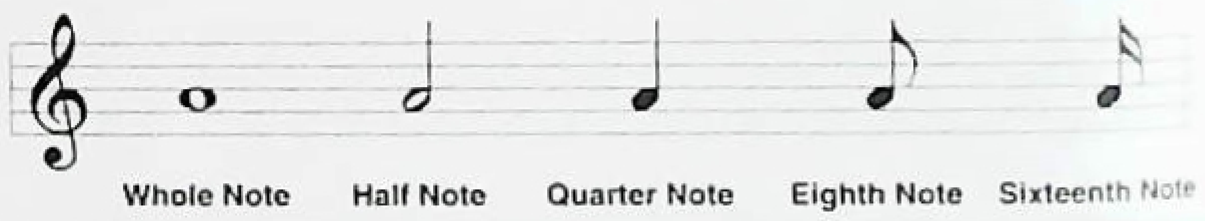
CHAPTER 8

Notation Values

Okay, let's analyze the length of time or duration of musical notes. The stem of a note and the black or white color determine the duration (i.e. how long a note will sustain). This length of time or duration is expressed in terms of beats and/or fractions of one beat.

Music would be boring if the rhythm or *groove* was always the same. In today's music, there are five common note values. The first is the *whole note,* and sustains for four beats in 4/4 time. The *half note* lasts for two beats. The *quarter note* lasts for one beat, the *eighth note* lasts for a half beat, and the *sixteenth note* sustains a quarter (i.e. 1/4) of one beat. The best method for remembering values is to recall your days in grade school math class when fractions were discussed. Note values are a method of subdividing the beat into fractions of one beat. *Example 8-A* demonstrates symbols used to indicate rhythmic values.

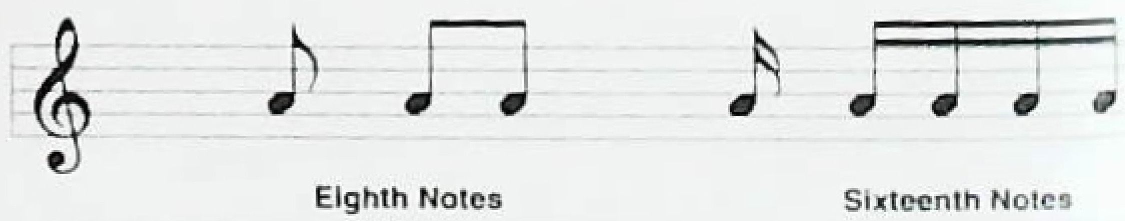
Example 8-A:



Beam

Example 8-B joins more than one eighth note or sixteenth note together using a *beam*. Beams indicate to the music reader that a series of eighth notes/sixteenth notes are occurring.

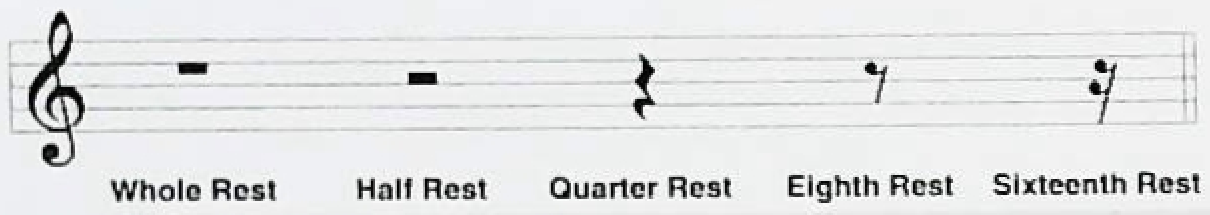
Example 8-B:



Rest

There also exists for the musician and songwriter a symbol to represent no sound. The symbol for measured silence is *rest*. Rests correspond to every note value in that they are the equivalent time value of silence. *Example 8-C* shows the rest, both symbol and value.

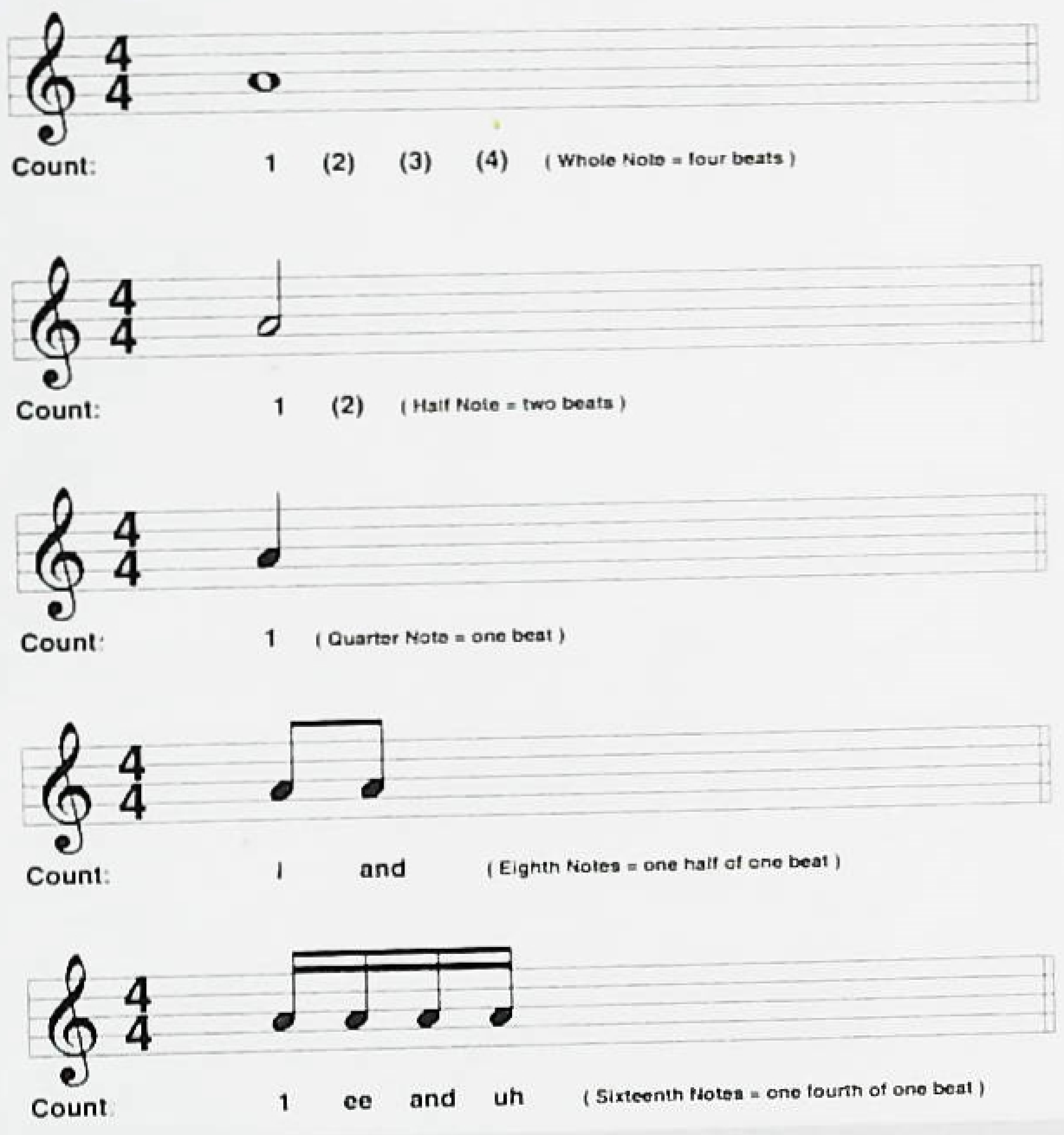
Example 8-C:



Counting

Example 8-D explains how to count rhythmic notational values. These are the fundamentals, so spend some serious time familiarizing yourself with the how's and why's of counting. This will reinforce your sense of time, and get you *feeling* the pulse of a song.

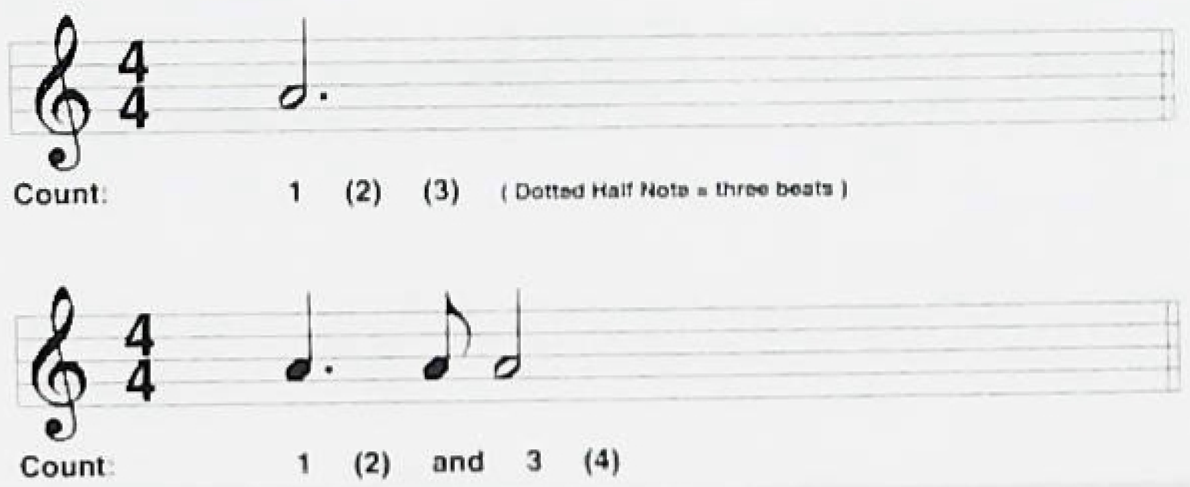
Example 8-D:


Count: 1 (2) (3) (4) (Whole Note = four beats)
Count: 1 (2) (Half Note = two beats)
Count: 1 (Quarter Note = one beat)
Count: 1 and (Eighth Notes = one half of one beat)
Count: 1 ee and uh (Sixteenth Notes = one fourth of one beat)

Dots

All five basic rhythmic notational values may be increased by one half their value through the addition of a *dot*. For example, a dotted half note would receive 3 beats, or the total time value of 1 half note plus 1 quarter note. A dotted quarter note would get 1-1/2 beats, or the total time value of 1 quarter note plus 1 eighth note. And so on. *Example 8-E* depicts a few dotted notes.

Example 8-E:

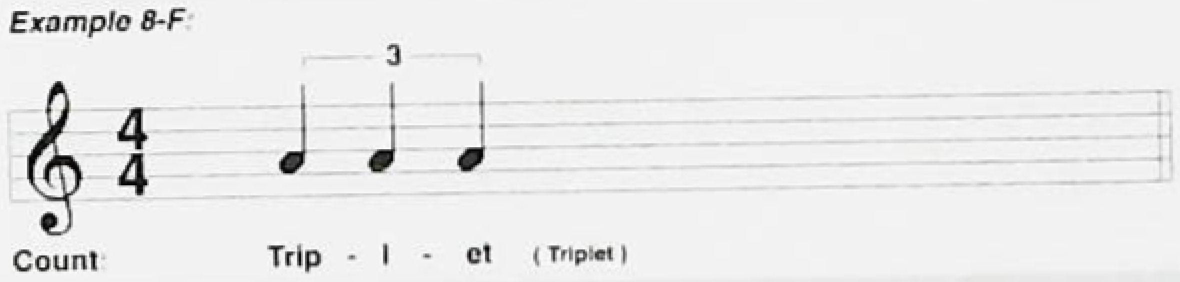


Triplets and Ties

Other rhythmic devices commonly used are *triplets* and *ties*. Triplets are three notes played in the time space normally allocated for two notes. For example, eighth note triplets would be played in the time space of 2 eighth notes. Quarter note triplets are played in the time space of 2 quarter notes. *Example 8-F* shows triplets designated with a bracket and the number "3."

A *tie* is used to connect or "tie" two or more notes of the same pitch together so that the second note or notes are only sustained and not rearticulated. The duration of sustain is equal to the combined total time value of tied notes. Don't confuse ties with *phrase marks* or *slurs*. There is a difference!

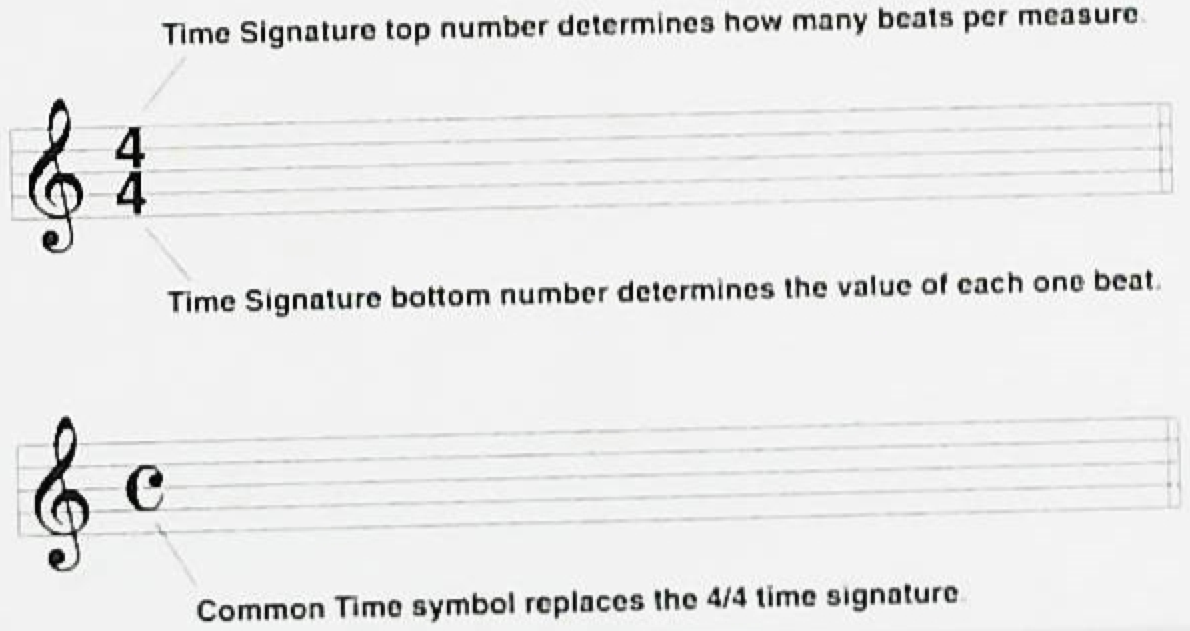
Example 8-F:



Time Signature

The way in which notes relate to the *meter* (or beat) is determined by the numerical fraction located at the beginning of a piece of sheet music, and is referred to as the *time signature*. The top number in the time signature tells how many beats per bar or measure. The bottom number defines the value of one beat. For example, the most common time signature is 4/4 (pronounced: "four-four time"). The top number says there are 4 beats per measure. The bottom number tells you that each one beat has a value of 4 or 1/4, and is a quarter note. 4/4 time is normally referred to as *common time*, and is sometimes represented by the symbol "**C**". See *Example 8-G*.

Example 8-G:


Time Signature top number determines how many beats per measure.
Time Signature bottom number determines the value of each one beat.
Common Time symbol replaces the 4/4 time signature.

Homework/Chapter 8

ASSIGNMENT ONE... Write on paper and perform an original solo using the rhythmic notation values found in this chapter. Include rests, dots, and beams. Keep the solo simple! As you perform your song, use a metronome, tap your foot, and count or sing aloud. Always practice with the same guitar tone as your intended performance.

ASSIGNMENT TWO... Draw a diagram of the pattern, shape, or pattern combination used to create the above original solo and explain.

ASSIGNMENT THREE... "Song-of-the-Week." *Transcribe* the melody and/or solo section of a song and learn to play it. Transcribing is your "ticket" to song analysis, killer chops, and mind-boggling technique. Get it in writing if you want to master your instrument. Do it for **one week before** continuing to the next chapter.

THE BOTTOM LINE... Understand how to read and write rhythmic notation values. When writing music notation, the proper direction of a note's stem is determined by the note's placement on a staff. For example, notes placed *below* the middle line have their stems going up. Notes placed *above* the center line have their stems going down. Stem direction for notes placed *on* the the center line is optional.

IMPORTANT This chapter on notation values is only a quick review to allow beginning musicians to become familiar with the basics of music terminology. ***Radical Rules is not a substitute for formal music education!*** I strongly recommend that all new musicians take a class with a competent teacher to become familiar with the sound of all musical symbols found in this chapter. Any music teacher of any musical instrument would be a good choice as an instructor, as long as he or she is not living in the Dark Ages. A relative, friend, or even the music teacher in your local school could qualify as a worthy instructor.

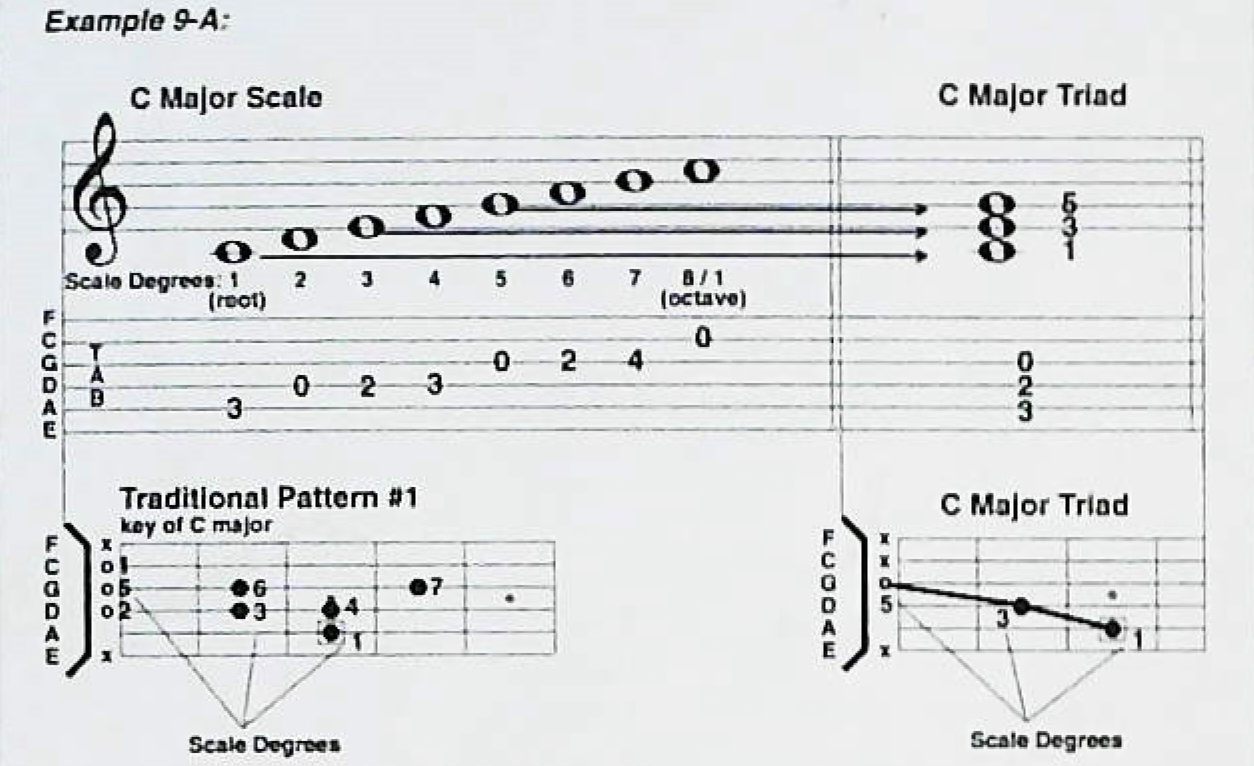
CHAPTER 9

Traditional Chords

The Harvard Brief Dictionary of Music states: "A *chord* is the simultaneous sounding of three or more tones. Two simultaneous tones are considered an *interval* rather than a chord." As discussed in Radical Rules (level 1), chords are formed by using every other note or tone of a *diatonic* scale. Diatonic means tones or notes confined to a particular scale, and do not include *chromatic* tones or notes. The name of a chord comes from its *root*. For example, the root of a "C" major chord is "C," the root of a "F" major chord is "F," and the root of a "G" major chord is "G." The foundation for all chords is the basic *triad* chord. As the name implies, a triad chord consists of three discrete tones or notes... the root (1), the third (3), and the fifth (5). *Example 9-A* shows a C major scale, and how to construct the C major triad chord.

IMPORTANT Chords are constructed by using every other note of a diatonic scale. Additional information concerning chord construction will be discussed in Radical Rules (level 3).

Example 9-A:



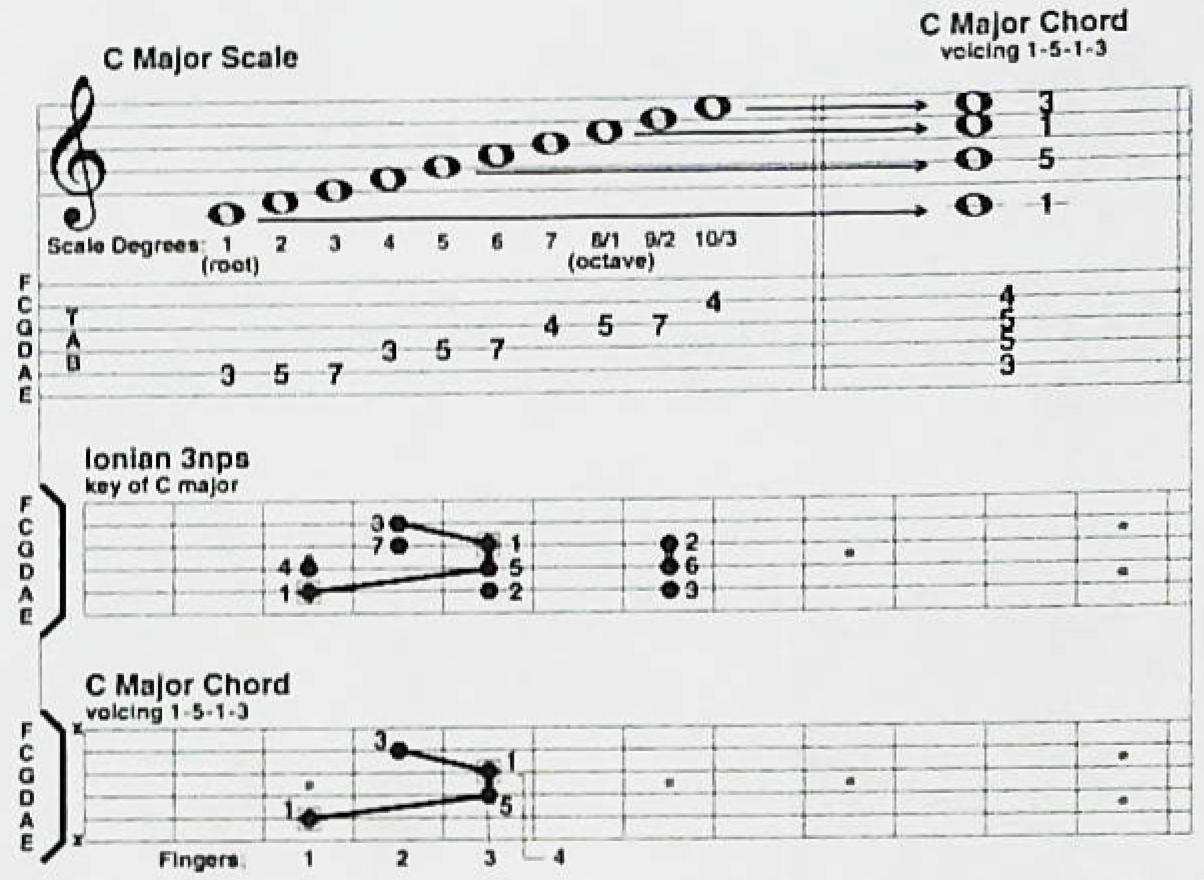
Voicing

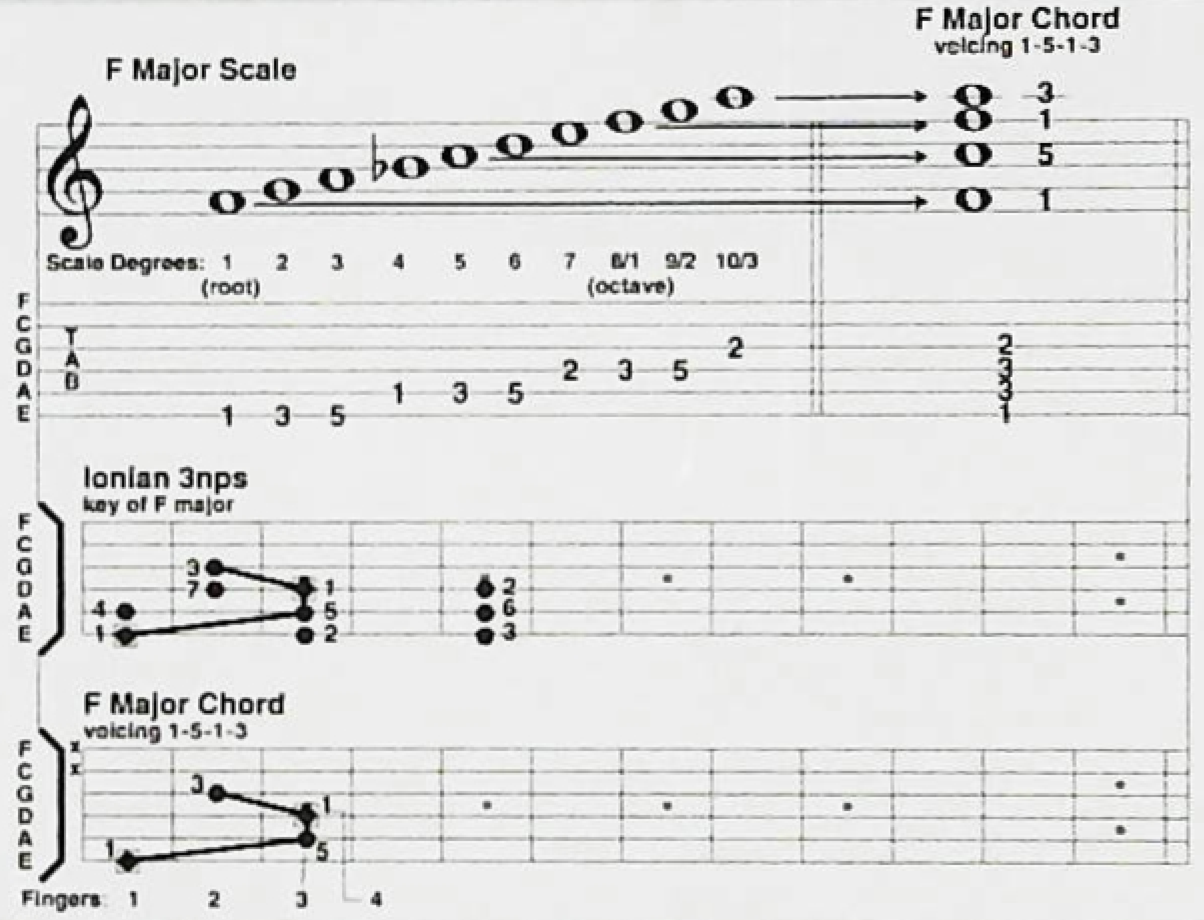
One of the first steps towards improvising and composing is chord *voicing*. Have you ever been told that in your favorite song by Desmond Child (songwriter and producer for acts like Bon Jovi, Cher, and Alice Cooper) the guitarist plays a C major chord? But, every time you play *your* C major chord, it just doesn't have that same magical blend of notes heard on the compact disc. The reason is because the guitarist on CD is playing a particular *arrangement* of notes for his or her C major chord. This arrangement of notes for a chord is referred to as *voicing*. No rules exist which say a C major chord must be played as 1-3-5. (By the way, the first number is always the lowest-pitched note in a chord, the second note is the next higher-pitched note, and so on.) Chords can be voiced in every imaginable way… 1-3-5, 3-1-5, 5-1-3, 5-1, 1-5, etc.. You don't even need to play all available notes… because there are no *Music Police!*

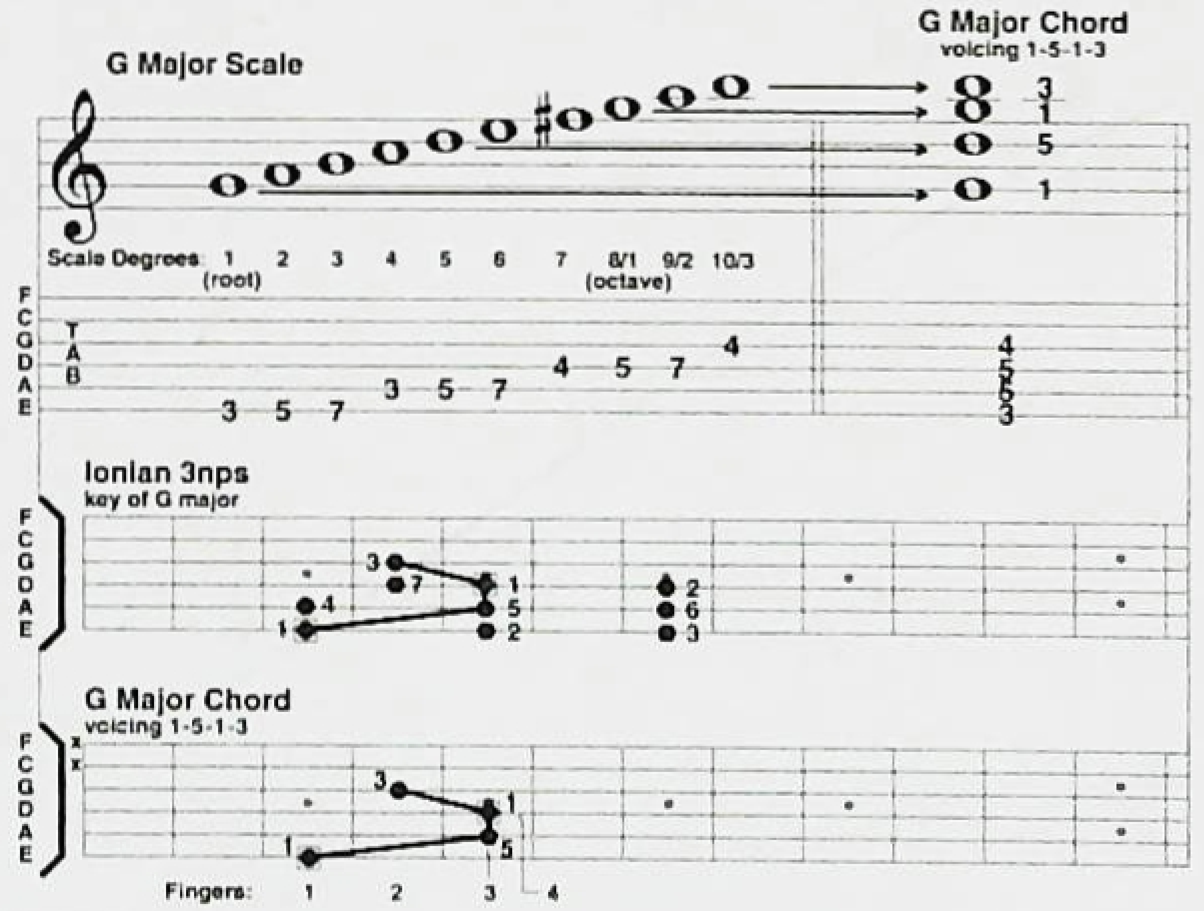
Voicing 1-5-1-3

This is our first 4-note chord, and is probably the most popular chord shape in use today. Look closely and you'll see our favorite triad chord shape in the three higher-pitched notes. The new addition is the low note, and is, in fact, the *root* of the chord. It is now possible for us to find chords by using our index finger as a *locator* (i.e. use the suggested fingering, locate the root of the chord with your index finger, play the chord's shape). Whenever a motorist asks…*Where's the next gas station?*… you always respond by raising your arm and pointing in the proper direction with your index finger. Using the index finger to locate and find things is a very natural tendency. So, it makes a lot of sense why this chord voicing is used by the majority of players. *Example 9-B* shows the C major, F major, and G major chords voiced 1-5-1-3.

Example 9-B:





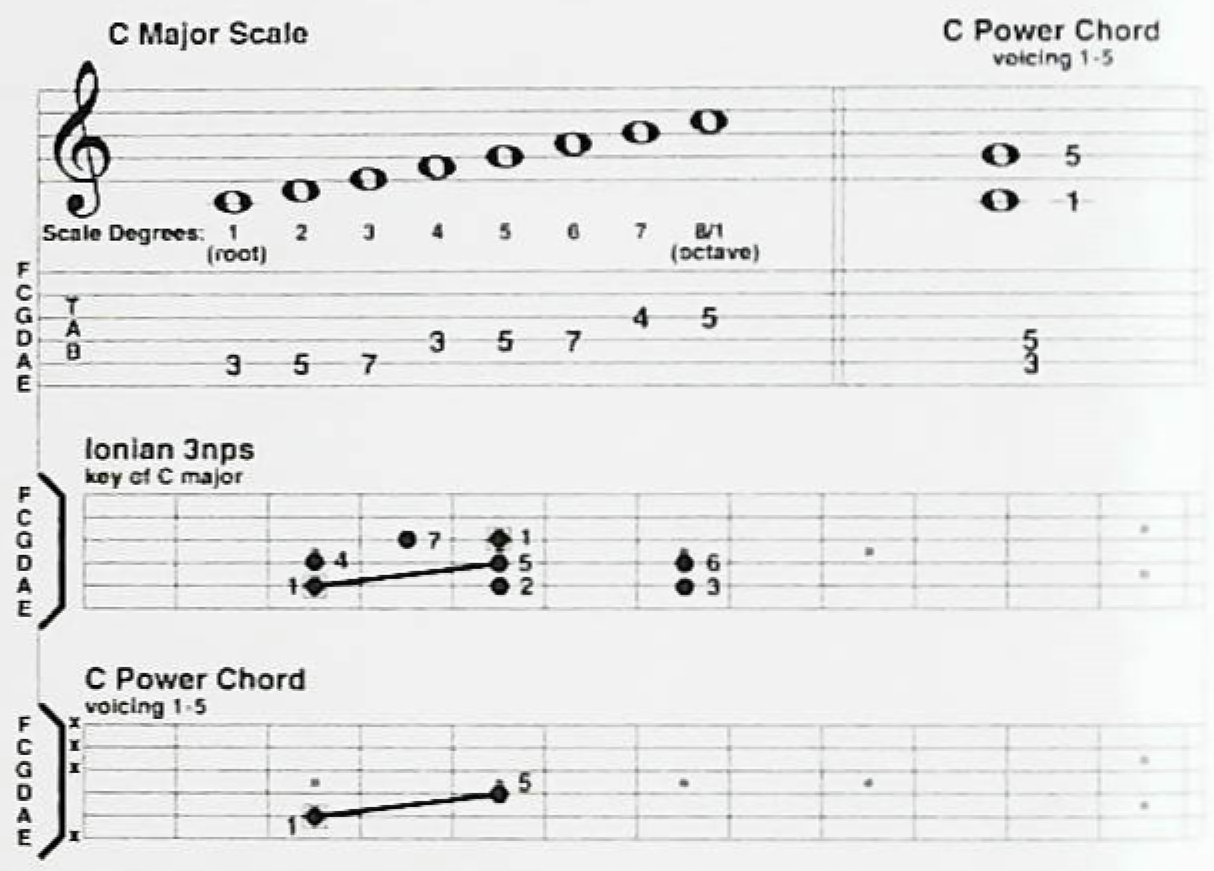


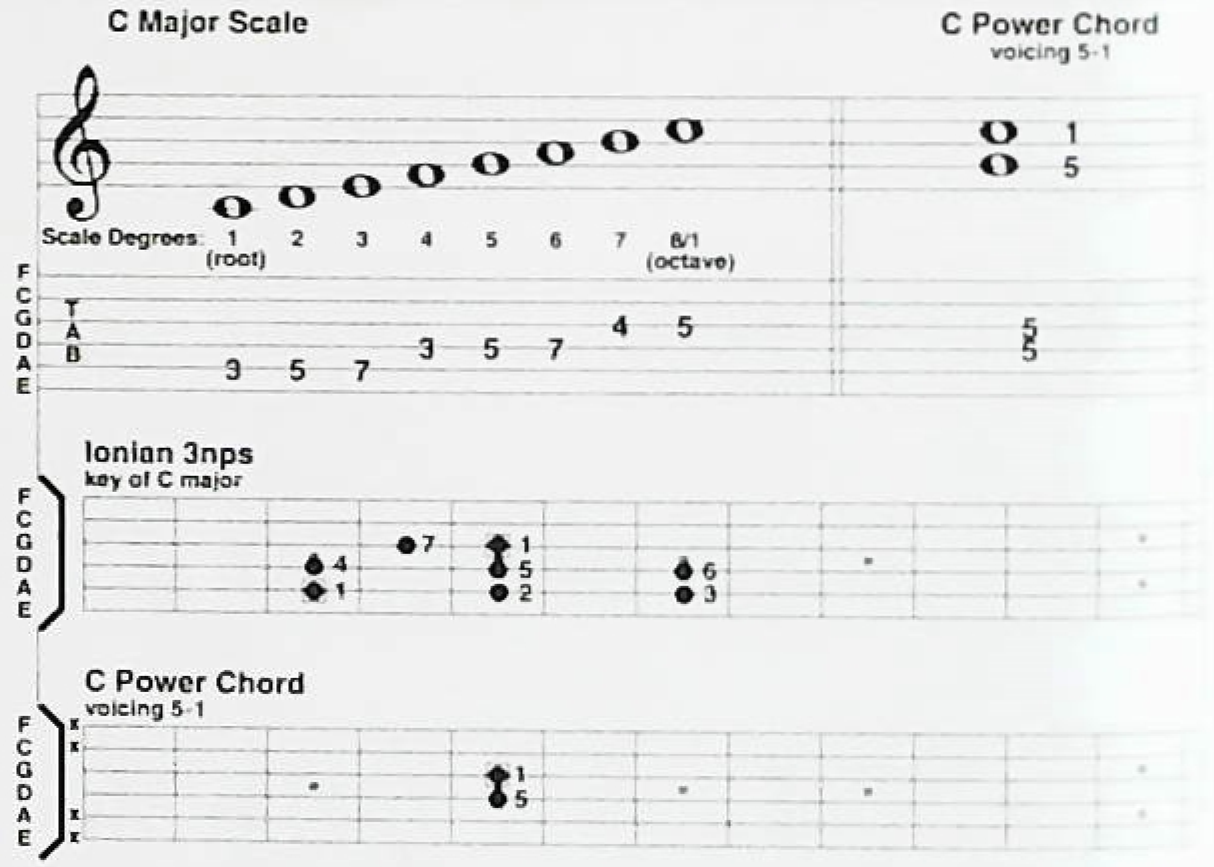
Power Chords

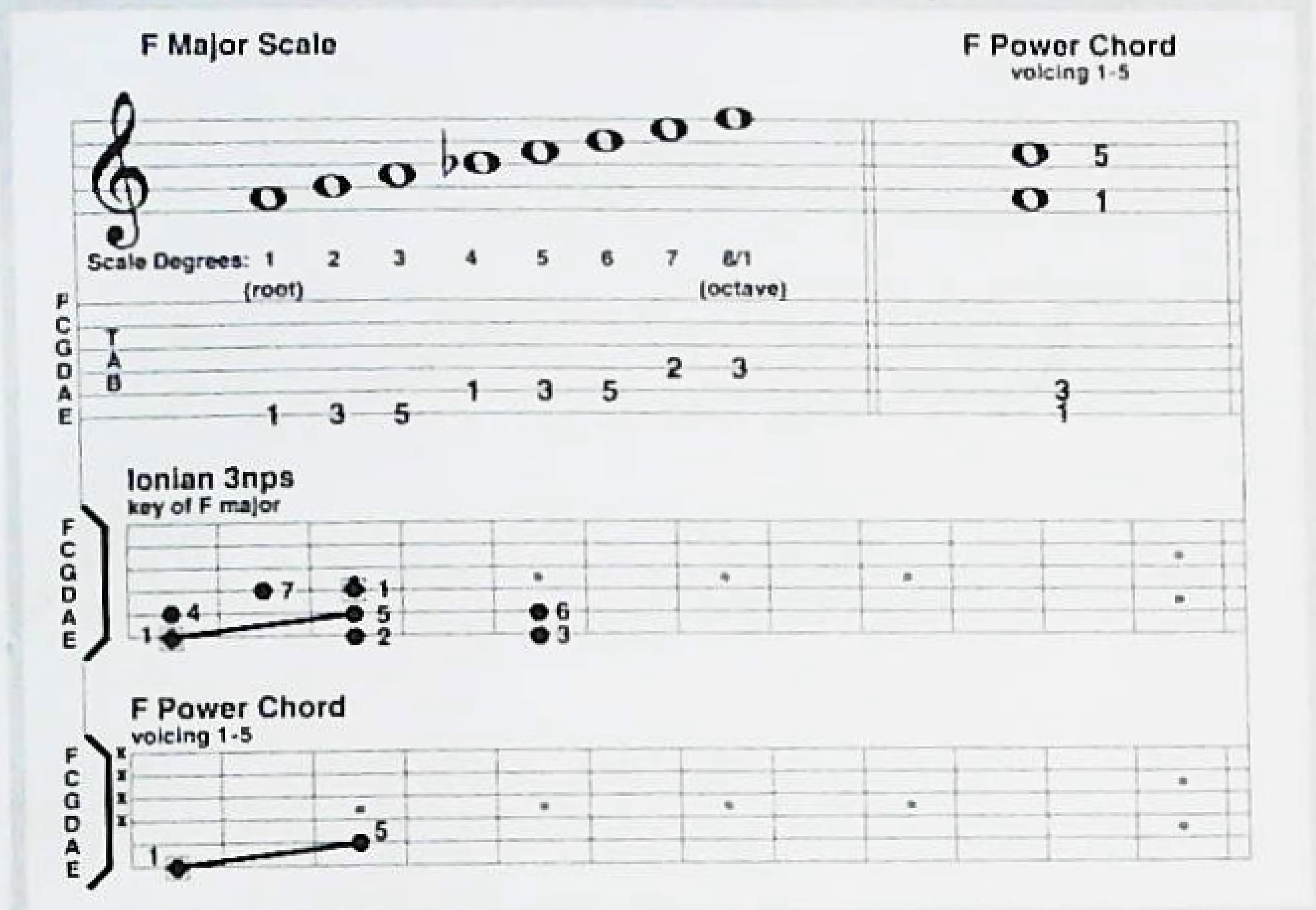
It's time to look at the most popular chord voicing used in modern music… the *power chord*. As its name implies, the characteristic sound of this chord is strong and powerful with loads of attitude (i.e. a breathy-crunch that sounds incredible). In addition, the shape is simple, fast, and easy to play. Also called an *open fifth* or *open third*, you'll find this awesome two-note *diad* chord shape used in all types of music. It sounds great *cranked* through a "stack," finger-picked on an acoustic, and even fits on an electric played *clean*. Voicing for the power chord is 1-5, and its *inversion* 5-1 The elimination of the 3rd is what creates the kick-ass, smooth *open* sound. Due to its voicing, power chords are what I refer to as *neutral chords* or *neuter chords*. In other words, the *quality* of these chords is neither major nor minor due to the absence of the 3rd. As a result, the meat-and-potatoes power chord can be used almost exclusively throughout a *harmonized scale*, adjusting only the 5th when necessary

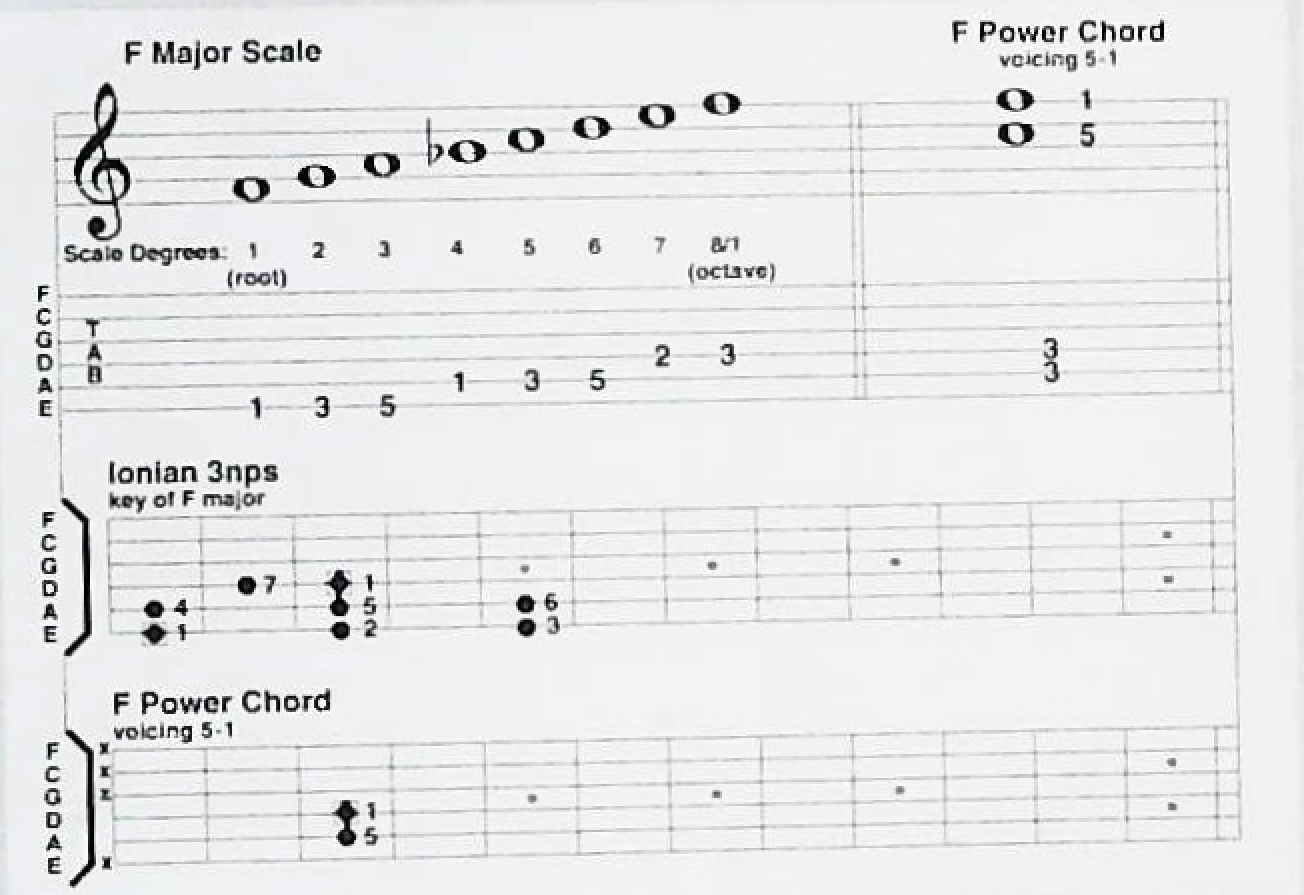
Example 9-C demonstrates the C, F, and G power chords. As previously discussed and shown in *example 9-A* and *example 9-B*, chords are formed from diatonic major scales. This same principle applies equally to the power chord.

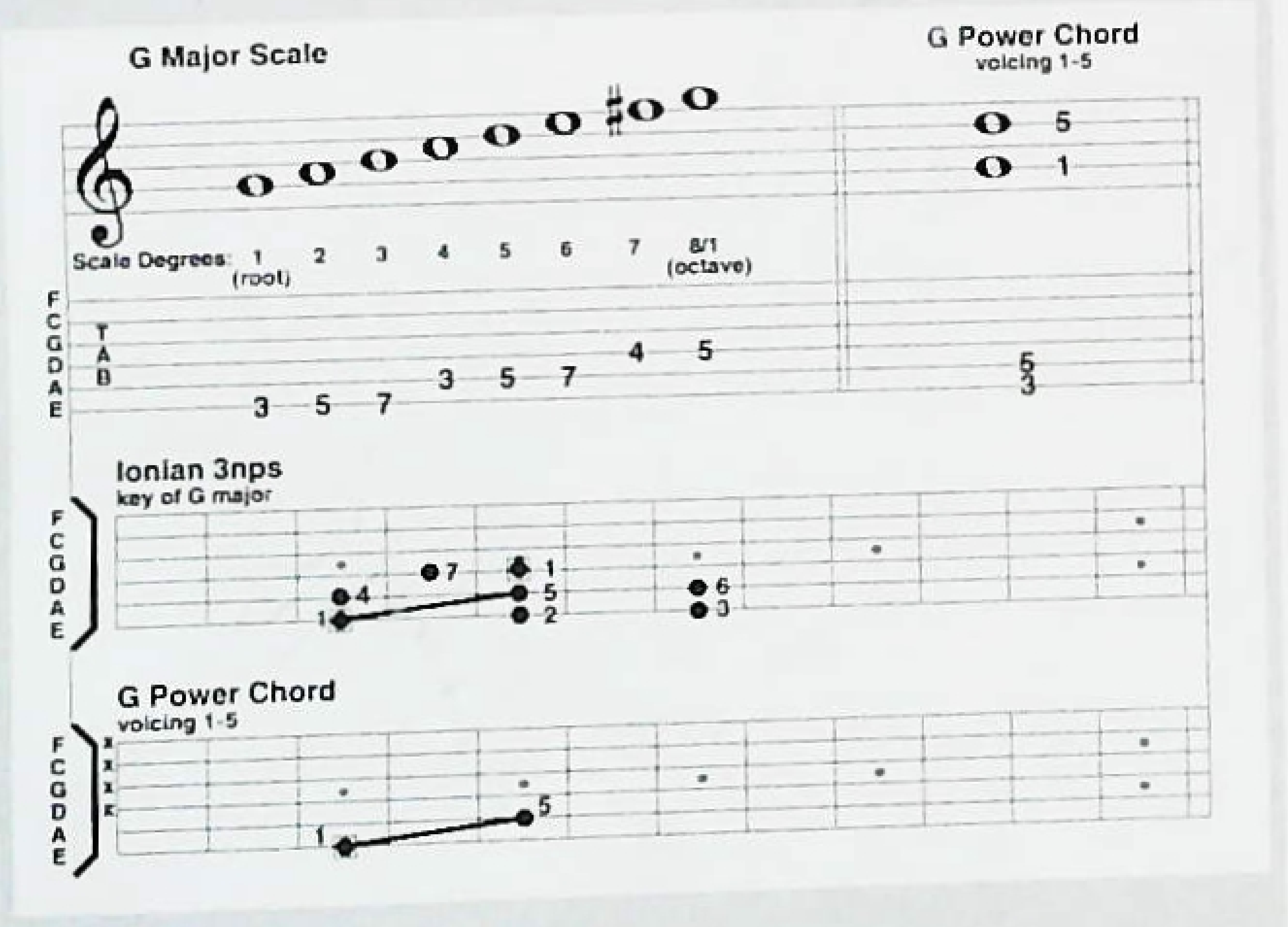
Example 9-C:

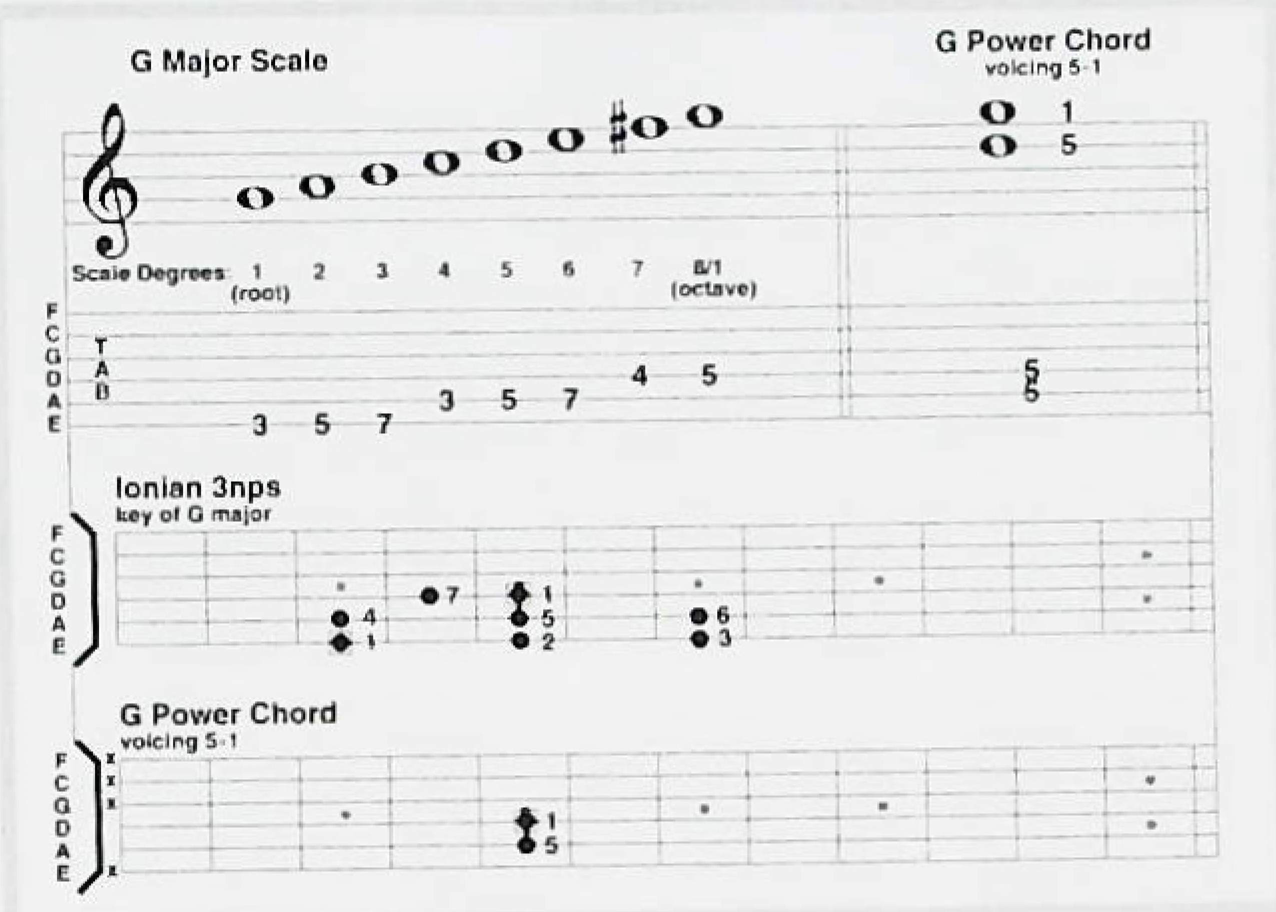












Homework/Chapter 9

ASSIGNMENT ONE… Write on paper and perform a very simple solo over the 12 Bar Blues in the key of C using rhythmic notation values. Include rest, dots, and beams. Use a metronome, tap your foot, and count or sing aloud. Draw a fretboard diagram showing the major scale pattern used to create your original solo and explain (i.e. maybe it's your comfort-zone pattern or pattern combination).

ASSIGNMENT TWO… As you play through the 12 Bar Blues for the above solo, play chord voicing 1-5-1-3 for all chords. Next, play the power chord voicing 1-5 for all chords. Finally, play the power chord inversion voicing 5-1 for all chords.

ASSIGNMENT THREE… "Song-of-the-Week." Do it and record it!

THE BOTTOM LINE… Be able to flip-flop between chord voicings 1-5-1-3, 1-5, and 5-1 at will.

IMPORTANT power chord voicing = 1-5
inversion voicing = 5-1

As with all chapters, do this chapter for **one week!** If you think you're different and can fool *Mother Nature,* think again. It takes time to develop motor skills and long-term memory.

CHAPTER 10

More Traditional Chords

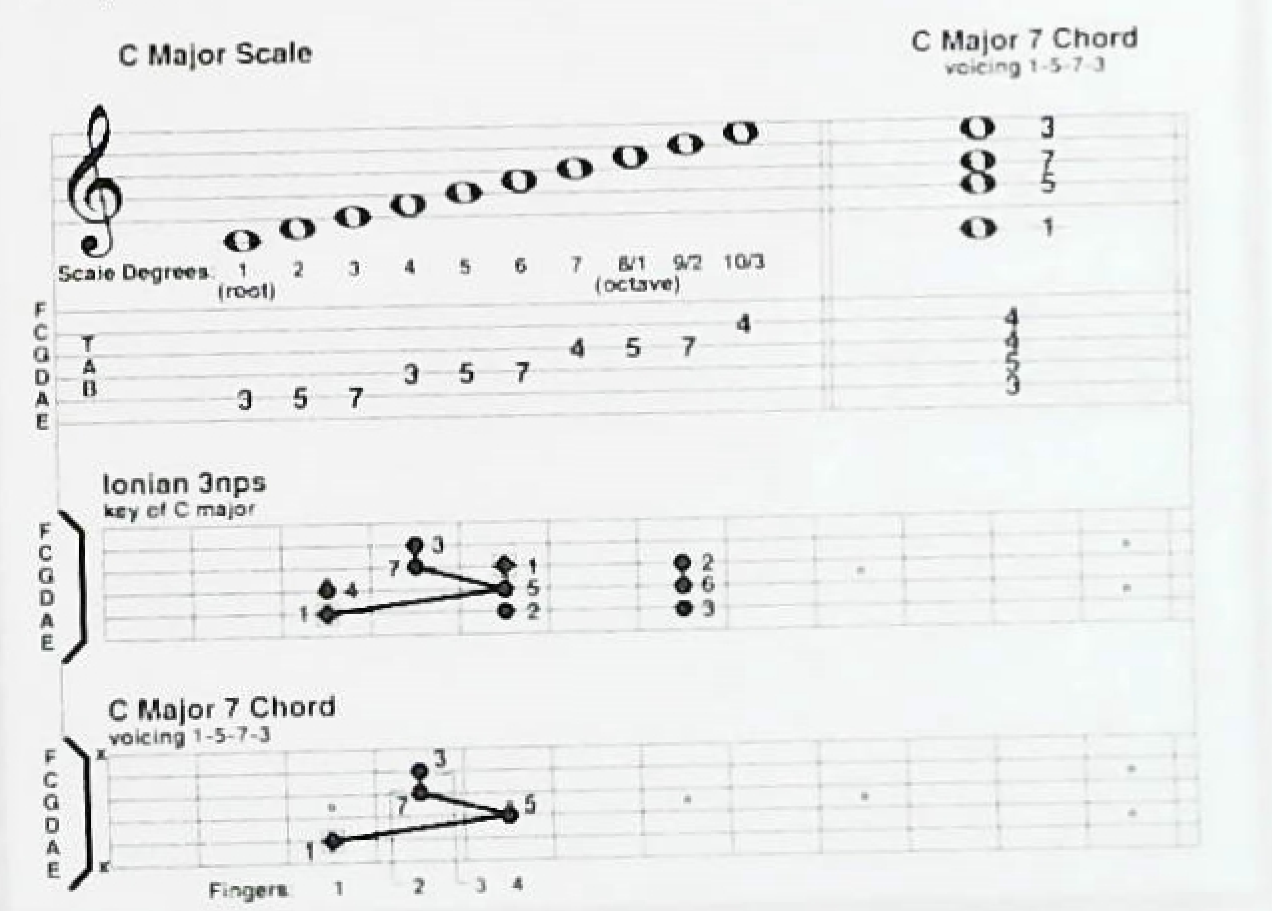
If you take a normal 1-3-5 chord voicing and add the 7th degree, you have created a *diatonic seventh chord.* These chords add another dimension to the traditional triad chord. The 7th adds *tension* to the chord's overall texture. As a matter of fact, whenever you hear a seventh chord, your ears notify your brain that *"you're now entering the jazz/fusion zone."* Specific chords seem to "fit" specific styles of music. When listening to country, swing, or gospel, specific chords are used to make the style "happen." Metal features power chords screamin' through a "stack," and seventh chords are used in jazz and fusion. So, when you need to add some shades of jazz or fusion to your next song, reach for a seventh chord.

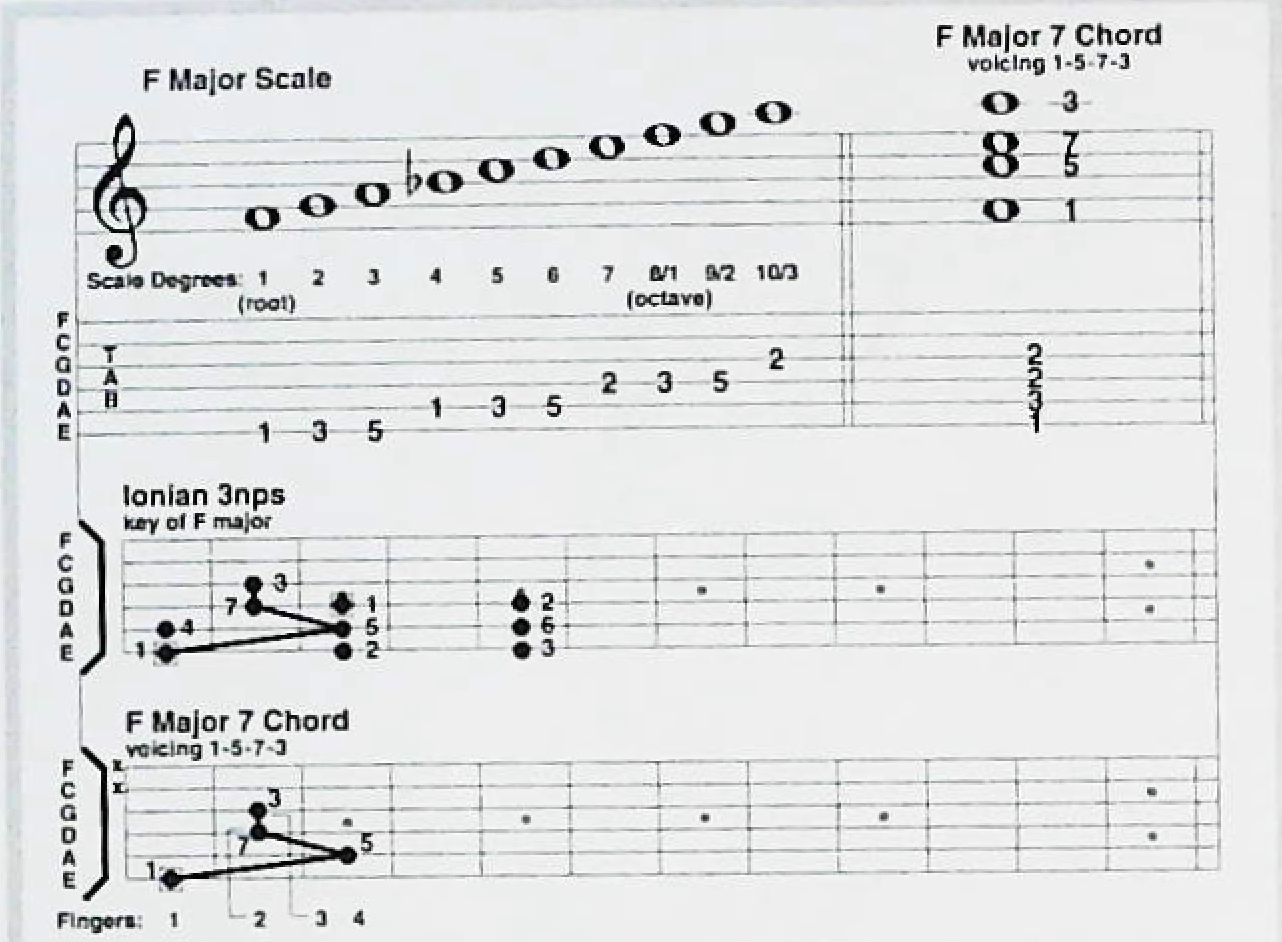
IMPORTANT Diatonic seventh chords are four note chords, and consist of root, third degree, fifth degree, and seventh degree tones.

Nondiatonic Chords

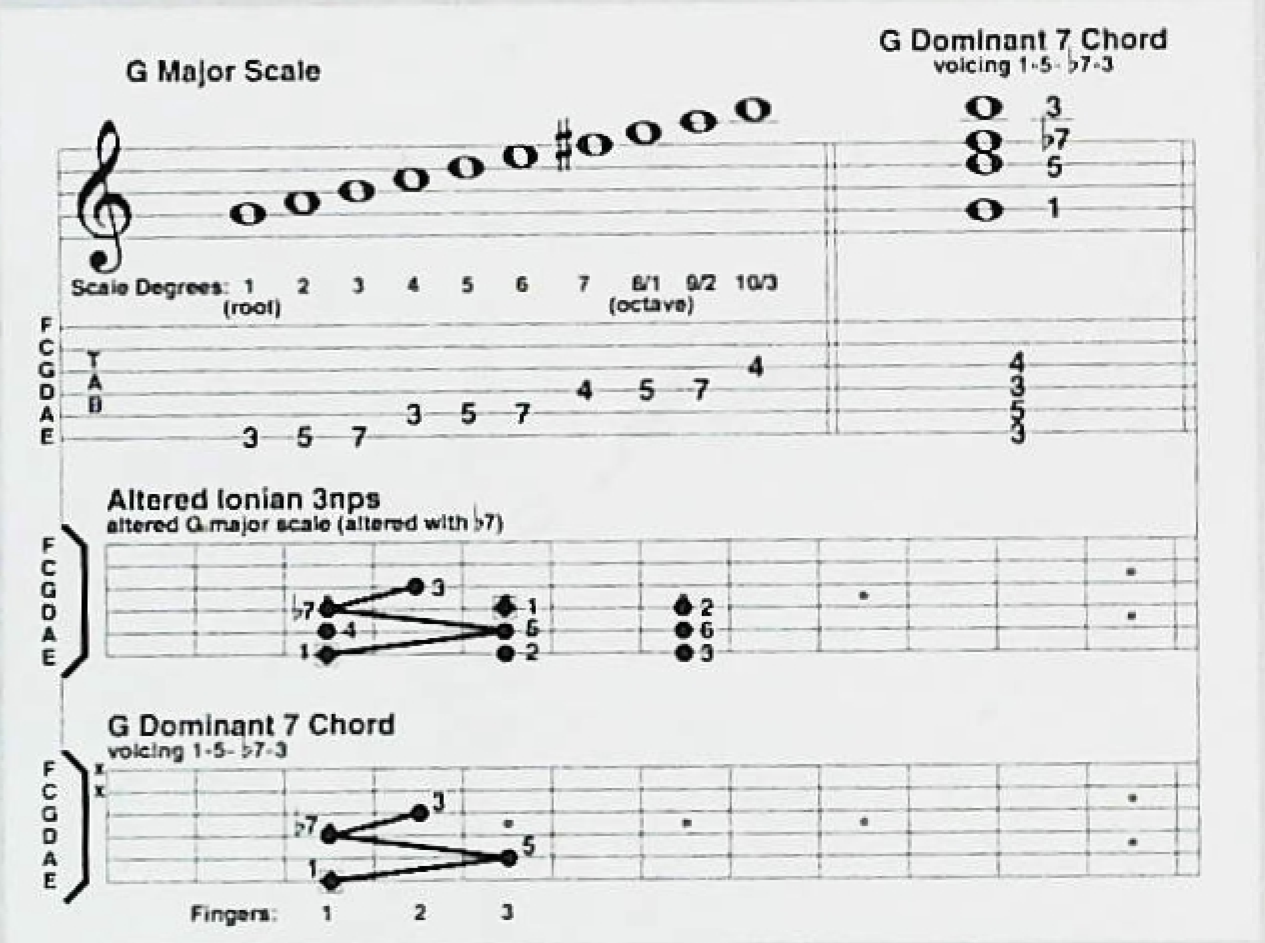
All scales and chords are constructed by using formulas. This makes life a little easier when attempting to "build" sounds and harmonies. As you have seen, the major scale formula is 2-2-1-2-2-2-1. The major triad formula is 1-3-5. And, the major seventh chord formula is 1-3-5-7. All of these formulas consist of diatonic notes. But, what happens when a *nondiatonic* note appears? *Example 10-A* demonstrates the C major 7 (Cmaj7) voicing 1-5-7-3, F major 7 (Fmaj7) voicing 1-5-7-3, and G dominant 7 (G7) voicing 1-5-♭7-3 chords. The G7 (pronounced: "G dominant 7") chord is our first nondiatonic chord. A nondiatonic chord is one which does not contain all diatonic notes. In other words, the 7th degree in a G major scale is *not* diatonic to the "parent" C major scale. This 7th degree must be *reduced* in order to "fit" into the diatonic C major scale.

Example 10-A





The first step for creating a dominant 7 chord is to know the chord's formula. Next, we must do whatever the formula specifies. In this instance, we have a G dominant 7 chord (G7) formula 1-5-♭7-3. We must use the G major scale (because, since G is the alphabet letter name of the G7 chord, the note G also acts as the root of the chord) and do as specified by the chord formula. So, take the notes or scale degrees 1-3-5-7 of the G major scale and "flat" the 7th degree, just as the chord formula specifies. That is, you need to *reduce* or lower the 7th degree by one fret.

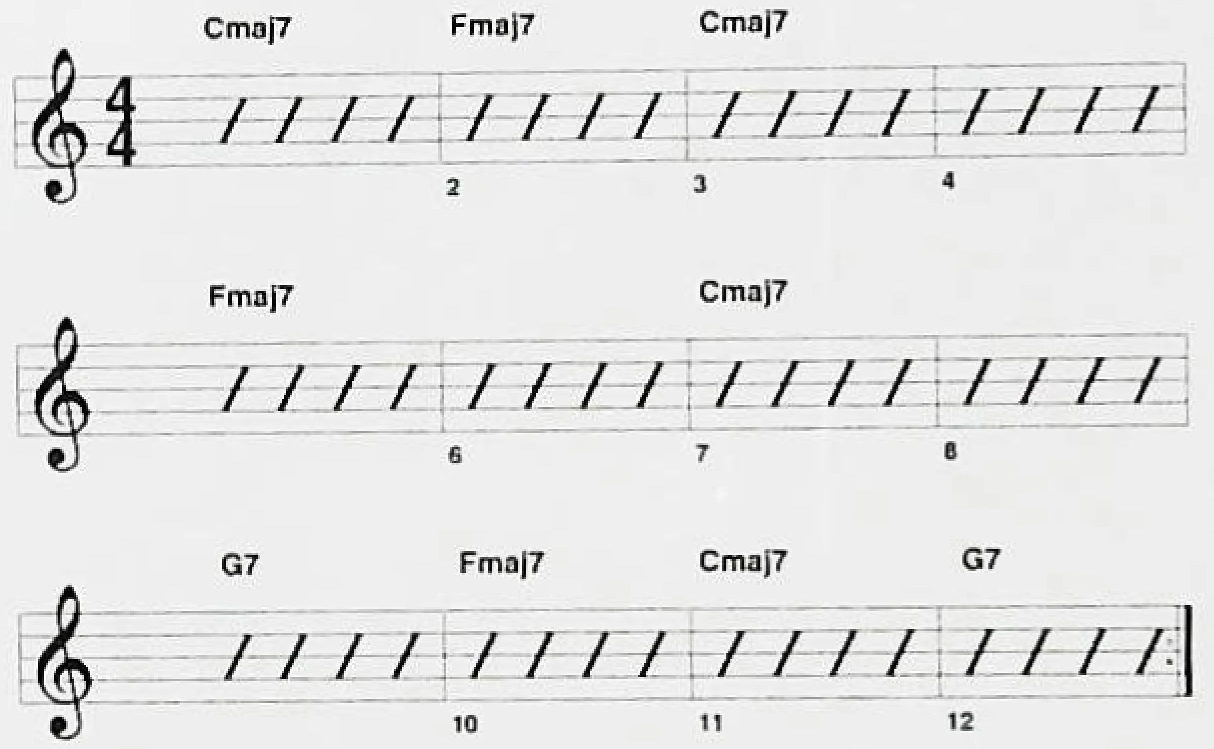


IMPORTANT The dominant 7 chord formula contains a ♭7 (pronounced: "flat 7"). This ♭7 is not diatonic to the G major scale. To meet the dominant 7 chord formula, you must *reduce* or *lower* the 7th degree (F♯) found in the G major scale by a half-step. Or, in other words, you must lower the 7th degree by one fret. When the 7th degree (F♯) is lowered by a half-step (or lowered one fret), it becomes F♮ (pronounced: "F natural"). You have actually changed the 7th degree note (F♯) to make it fit into the "parent" scale. For this example, the C major scale is the "parent" scale, and the ♭7 (F) of the G major scale is diatonic to the "parent" C major scale.

Example 10-B below shows the 12 Bar Blues with seventh chords. Give it a shot!

Example 10-B

12 Bar Blues



Homework/Chapter 10

ASSIGNMENT ONE.. Write on paper and perform an original solo over the 12 Bar Blues in the key of C major using notation, TAB, and seventh chords. Be sure to include picking-direction indicators and finger numbers. Don't forget to include rests, dots, and beams. Keep the solo simple! As you perform your songs, use a metronome, tap your foot, and count aloud.

ASSIGNMENT TWO... Draw a fretboard diagram showing the major scale pattern or pattern combination used to create above original solo and explain.

ASSIGNMENT THREE... "Song-of-the-Week." Select a song, learn to play it, and repeat all assignments for **one week!**

ASSIGNMENT FOUR... Record the above assignments. Listen to the recording and see if you're playing "clean" and in "time."

ASSIGNMENT FIVE... It's review time! If you want to learn quickly, it's crucial to maintain contact with the outside world. ***So, don't lock yourself in your room with your guitar!*** (Maybe you could join one or two bands?) If you have not visited a local qualified music instructor this month, it's time to set-up a private music lesson. The instructor can be a friend, music teacher at your neighborhood school, local musician, or choir director at your church. ***Outside "help" is required to reinforce all chapters found in this level!*** Plus, it's crucial to thoroughly understand everything found in the previous pages before moving-on to the next level. If you're not willing to do this, maybe you should find another profession or hobby.

THE BOTTOM LINE... Get the "sound" of seventh chords into your ears, eyes, and brain! Then, whenever you need the seventh chord "sound" in one of your progressions, just plug it in.

IMPORTANT To increase speed and pursue speed-picking, it's mandatory to find a balance between *perfection* and *pushing-the-limit.* Always set your metronome 5, 10 or 20 bpm higher than your best mm for a few minutes, and then return to a *no-mistakes* metronome speed (i.e. constantly flip-flop between these two speeds). Sure, you'll make mistakes and play somewhat out-of-control. But, you need to "push" yourself without losing sight of perfection if you want to develop higher picking speeds. **You need to *push the envelope!***

IMPORTANT Chords are constructed using every other note or tone of a diatonic scale, unless you need to alter or change the quality of the chord. To alter or change the quality of the chord, adhere to the formula and alter (if required by the chord formula) the appropriate degree or degrees of the diatonic scale accordingly.

CHAPTER 11

Harmonized Diatonic Scales

Each time you hear one of your favorite songs, there seems to be a magical blend of chords (harmony), melody, and soloing. Everything fits perfectly! Do songwriters really have a natural talent? Or, did they just do a little *song analysis* homework? Many songwriters and musicians struggle with *writer's block* by admitting they don't have the talent to create respectable music. Well, hold on tight to your guitar because as soon as you read the following pages, you too will become a songwriting mercenary from planet earth.

Numbers vs Alphabet

You have seen the major scale described in several ways… the "Do, Re, Me" scale, with alphabet letter names A, B, C, etc., and even with cardinal numbers using Arabic symbols 1, 2, 3, etc.. Yeah, it sounds somewhat redundant, but you have plenty of "cool" options when it comes time to describe your music to someone. Personally, I tend to think of what I play in terms of *numbers*. Numbers seem to function somewhat more generically. And, as a general consensus, most "pro" musicians work in numbers. (Hey, didn't I read somewhere that the human brain functions the same as a computer? And, don't computers utilize a numerical system?) The alphabet system and number system both work. Do some experimentation and select the system that works most comfortably for you, because you need to develop the ability to analyze, describe, and understand everything you play quickly and accurately.

Parent Scale Harmony

Each scale degree or tone of the "parent" scale has the possibility to become the root of a chord. Chords are then constructed using every other note of the "parent" scale. This combination of diatonic tones or notes is referred to as *harmonizing the scale*. Since seven notes exist in the *major* scale, seven possible chords are available to fit *inside* this "parent" scale. Each of the seven chords consist of the exact same notes as those found in the "parent" major scale. So, each time you hear your favorite song, you have the possibility for only seven notes and only seven chords from which to choose –unless you change the key center *(modulation)*, and/or *alter* the chords, and/or *extend* the chords, and/or *substitute* the chords. Once you know the key center (i.e. the *key* of the song), then you also know the seven possible chords and the seven possible melody/solo notes available to you. Essentially, that's all there is to finding chords and notes that blend together for song construction.

For example, take the C major scale tones C-D-E-F-G-A-B. Next, use each one of these seven tones for the root of a chord. That is, you now have some kind of C chord, some kind of D chord, some kind of E chord, some kind of F chord, some kind of G chord, some kind of A chord, and finally some kind of B chord. Next step, apply the chord construction concept and use every other note found in the diatonic scale. Finally, adjust to "fit" the "parent" scale. *Accidentals* are used to make these adjustments.

Roman Numeral System

Not only do chords of the harmonized major scale have formula names, but they are also referred to as *Roman numerals*. *Example 11-A* is a textbook-style chart showing Roman numeral, chord quality, formula, and standard chord abbreviation for the major scale harmonized with triad chords. *Example 11-B* shows the same, but with the addition of C major scale notes. The "pro" music world uses the Roman numeral system to analyze songs. So, if you're really serious about music, familiarity with this system will definitely add horsepower to your musicianship.

Example 11-A:

Harmonized Major Scale

triad chords

Roman Numeral	Chord Quality	Formula	Roman Numeral + Chord Quality
I	Major	1-3-5	Imaj
II	Minor	1-♭3-5	IIm
III	Minor	1-♭3-5	IIIm
IV	Major	1-3-5	IVmaj
V	Major	1-3-5	Vmaj
VI	Minor	1-♭3-5	VIm
VII	Diminished	1-♭3-♭5	VIIdim

Example 11-B:

Harmonized C Major Scale

triad chords

Roman Numeral	Chord Quality	Formula	Roman Numeral + Chord Quality
I=C	C Major	1-3-5 = C-E-G	Imaj = Cmaj
II=D	D Minor	1-♭3-5 = D-F-A	IIm = Dm
III=E	E Minor	1-♭3-5 = E-G-B	IIIm = Em
IV=F	F Major	1-3-5 = F-A-C	IVmaj = Fmaj
V=G	G Major	1-3-5 = G-B-D	Vmaj = Gmaj
VI=A	A Minor	1-♭3-5 = A-C-E	VIm = Am
VII=B	B Diminished	1-♭3-♭5 = B-D-F	VIIdim = Bdim

Harmonized Major Scale

The next few pages show the C major scale harmonized with triad chords. Take this opportunity to review traditional chord construction, because harmonizing the major scale is exactly the same concept. This is not new material! At first glance, music theory seems to be overwhelming and complicated. But, only understand a few basic concepts, and then everything begins to repeat. Formulas and terminology change, but the concepts remain intact.

As mentioned earlier, chords are constructed by using every other note of a diatonic scale, unless the scale has been altered. The name of the chord comes from the *root* of the chord. As a result, you must use the diatonic scale and chord formula designated by the name of the chord and its root. The following are the recommended questions, answers, and procedures for chord construction:

- ■ 1) What is the alphabet name of the chord?
- ■ 2) This alphabet name is the root of the chord.
- ■ 3) This root is the 1st degree or *tonic* of the same major scale.
- ■ 4) What are the member notes of this major scale?
- ■ 5) Use every other member note or scale degree in this major scale for chord construction.
- ■ 6) All member notes must "fit" into the "parent" scale!

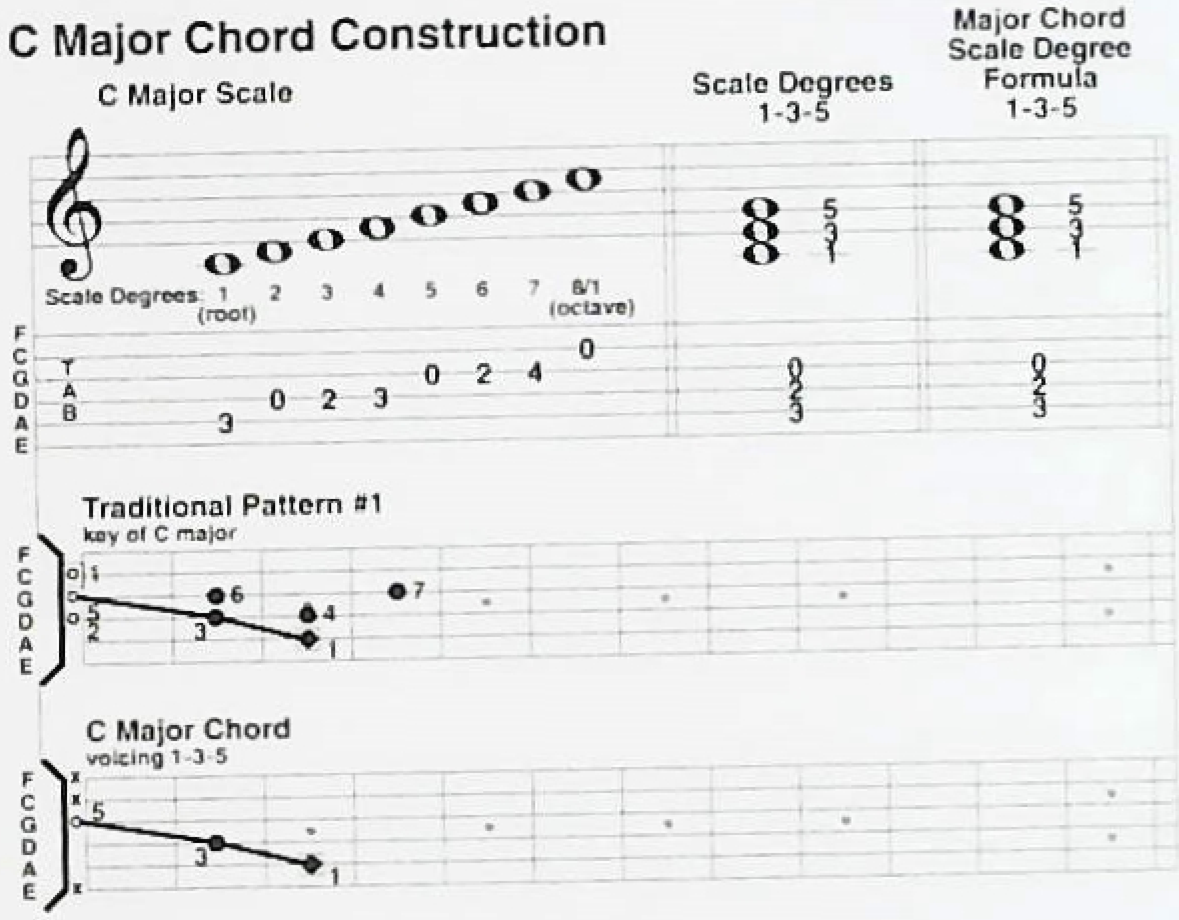
For the following examples, "C" major is the "parent" scale because we are actually harmonizing the "C" major scale. Plus, whenever necessary, member notes and scale degrees must be *altered* and/or *adjusted* to "fit" into the "parent" scale. **The resulting scale degrees will determine the chord's *quality* (i.e. major, minor, diminished, etc.).** *Example 11-C* applies the 6 questions, answers, and procedures for each of the seven C major scale degrees harmonized with triads.

Chord Construction (Cmaj)

- ■ 1) What is alphabet name of the chord? answer: "C"
- ■ 2) Alphabet name is root of chord. "C" is the chord's root.
- ■ 3) This root is the 1st degree of the same major scale. "C" is the 1st degree of the C major scale.
- ■ 4) What are the member notes of this major scale? The member notes for the C major scale are C-D-E-F-G-A-B.
- ■ 5) Use every other scale degree or member note in this major scale for chord construction: 1-3-5 = C-E-G.
- ■ 6) All member notes must "fit" into the "parent" scale! For this example, "C" major is the "parent" scale because we're harmonizing the "C" major scale. Member notes C-E-G already "fit" into the "parent" scale, so no adjusting or altering is required. The resulting unaltered scale degrees are 1-3-5 and match the major chord formula

Example 11-C

C Major Chord Construction

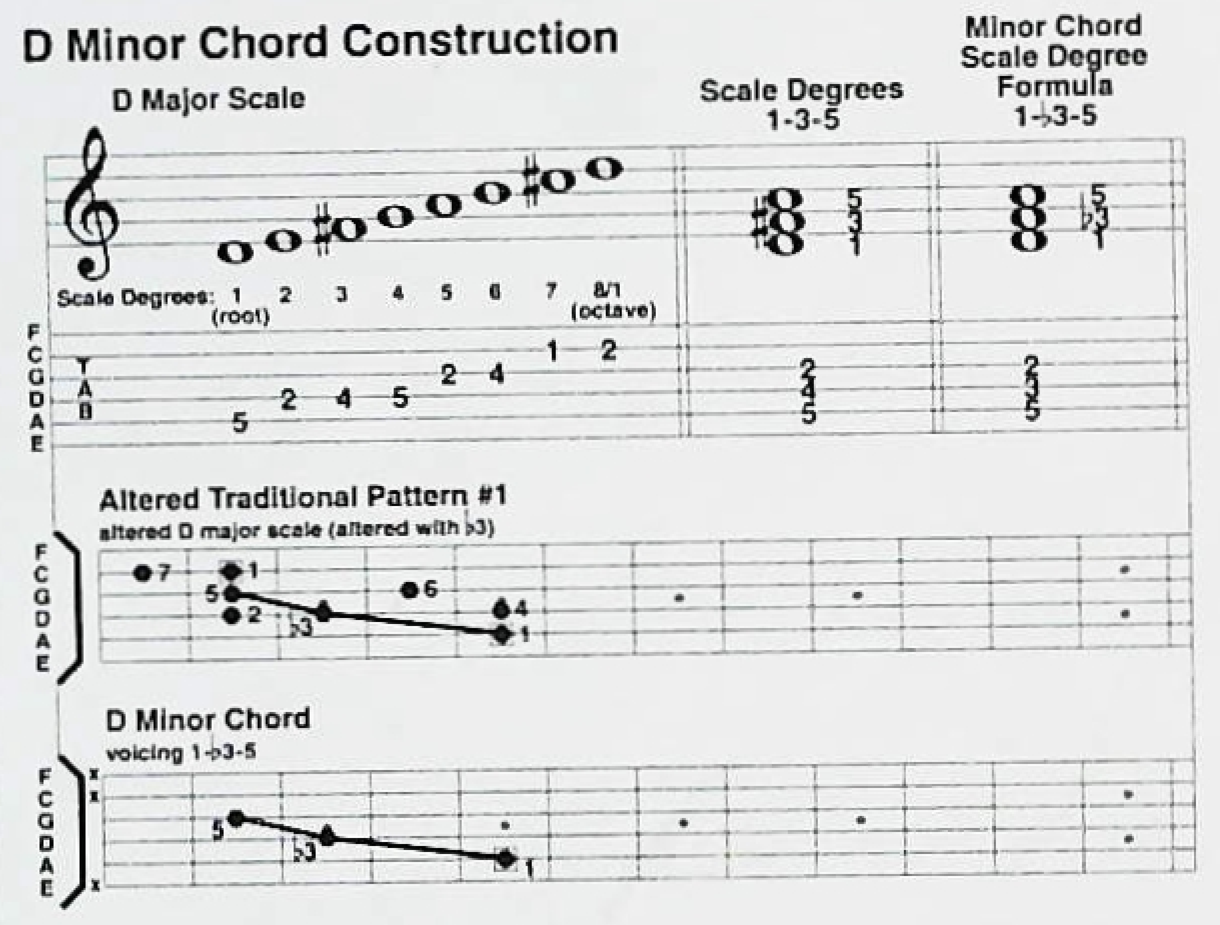


Chord Construction (Dm)

- 1) What is alphabet name of the chord? answer: "D"
- 2) Alphabet name is root of chord. "D" is the chord's root.
- 3) This root is the 1st degree of the same major scale. "D" is the 1st degree of the D major scale.
- 4) What are the member notes of this major scale? The member notes for the D major scale are D-E-F♯-G-A-B-C♯.
- 5) Use every other scale degree or member note in this major scale for chord construction: 1-3-5 = D-F♯-A.
- 6) All member notes must "fit" into the "parent" scale! For this example, "C" major is the "parent" scale because we are harmonizing the "C" major scale.

There is no F♯ in the C major scale! To "fit" into the "parent" scale, the 3rd degree F♯ needs to be *reduced* or altered *downwards* by a half-step to F, so "flat" the 3rd degree. The resulting adjusted and/or altered scale degrees are 1-♭3-5 and match the minor chord formula.

Example 11-C continued:



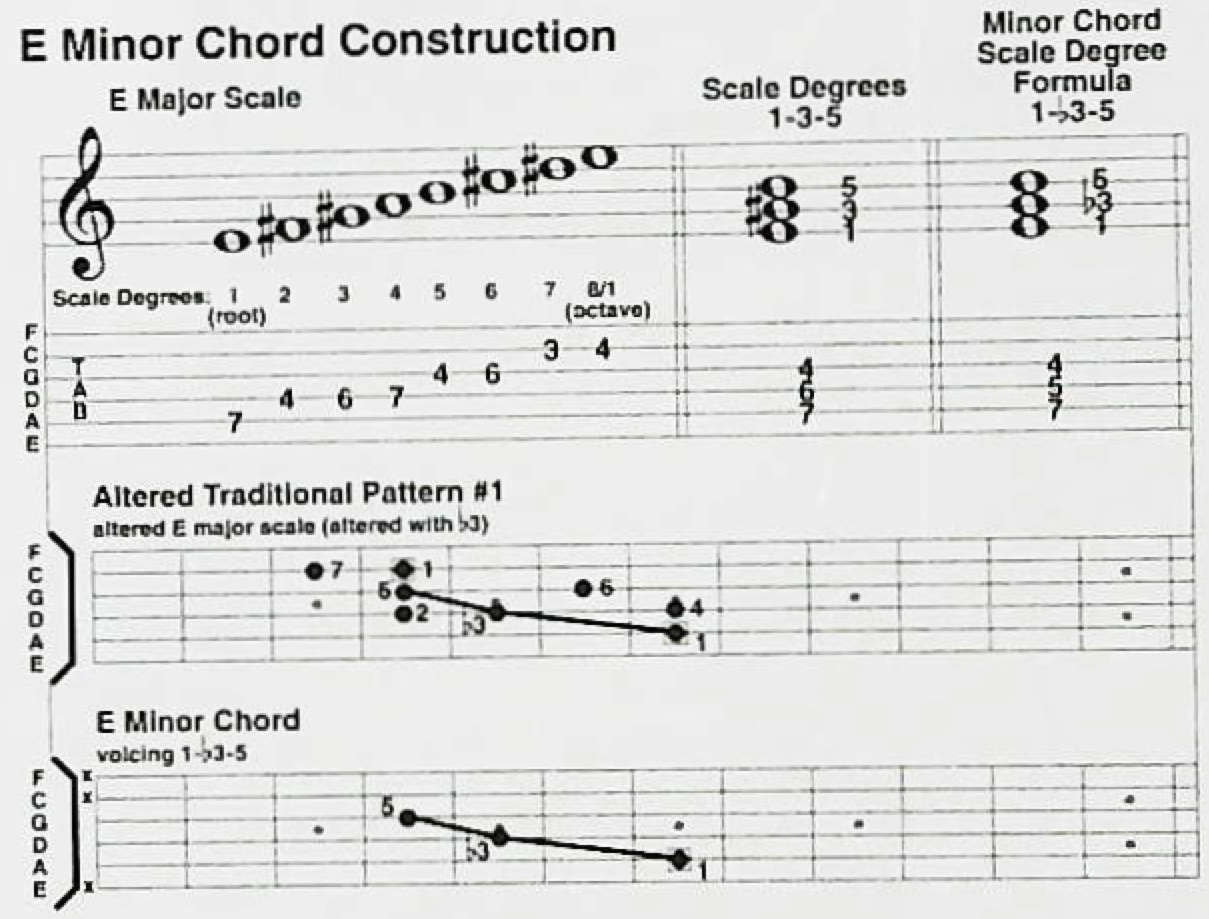
D Minor Chord Construction
D Major Scale
Scale Degrees 1-3-5
Minor Chord Scale Degree Formula 1-♭3-5
Scale Degrees: 1 (root) 2 3 4 5 6 7 8/1 (octave)
F C G D A E
T A B
5 2 4 5 2 4 1 2
Altered Traditional Pattern #1
altered D major scale (altered with ♭3)
D Minor Chord
voicing 1-♭3-5

Chord Construction (Em)

- 1) What is alphabet name of the chord? answer: "E"
- 2) Alphabet name is root of chord. "E" is the chord's root.
- 3) This root is the 1st degree of the same major scale. "E" is the 1st degree of the E major scale.
- 4) What are the member notes of this major scale? The member notes for the E major scale are E-F♯-G♯-A-B-C♯-D♯.
- 5) Use every other scale degree or member note in this major scale for chord construction: 1-3-5 = E-G♯-B.
- 6) All member notes must "fit" into the "parent" scale! "C" major is the "parent" scale because we are harmonizing the "C" major scale.

There is no G♯ in the C major scale! To "fit" into the "parent" scale, the 3rd degree G♯ needs to be *reduced* or altered *downwards* by a half-step to G, so "flat" the 3rd degree. The resulting adjusted and/or altered scale degrees are 1-♭3-5 and match the minor chord formula.

Example 11-C continued:

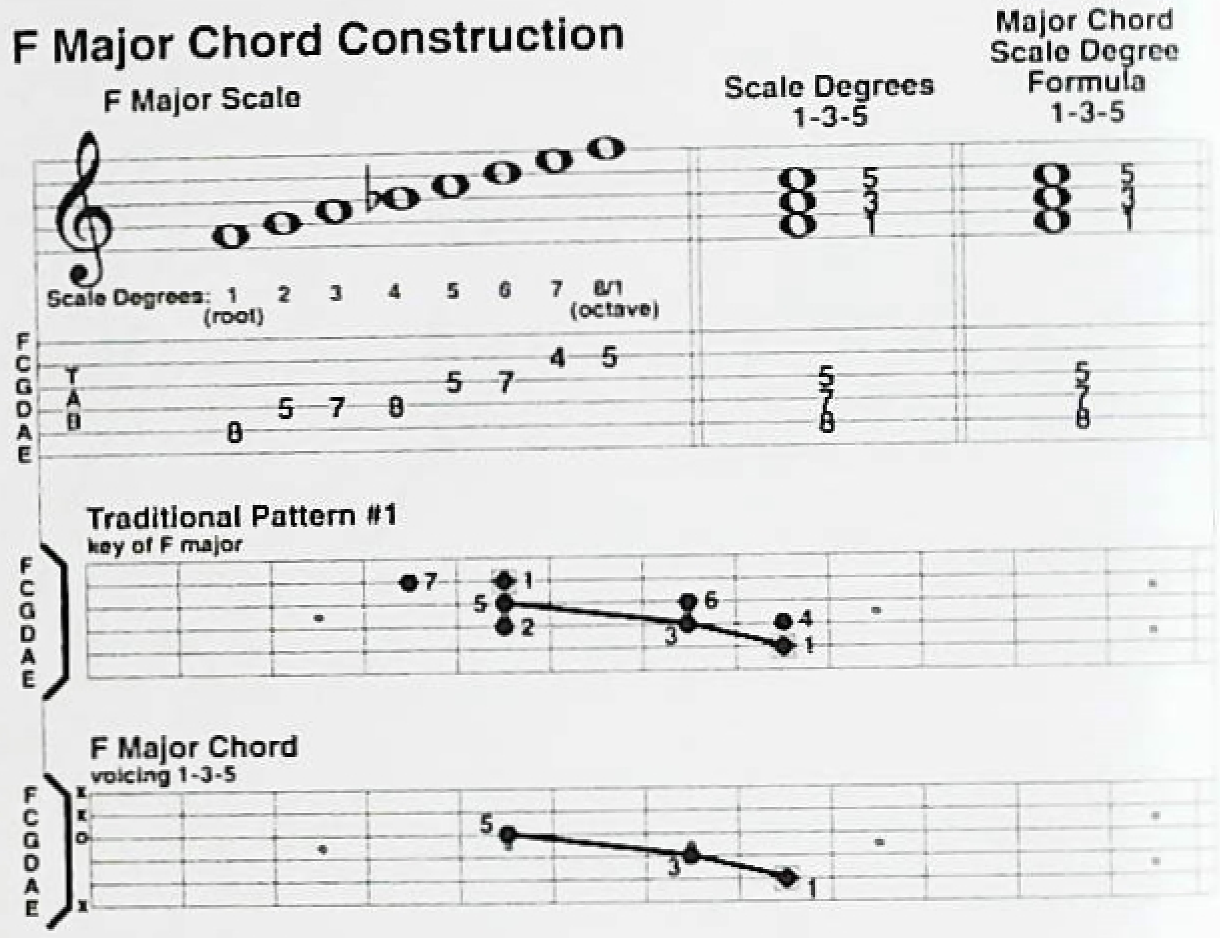


E Minor Chord Construction
E Major Scale
Scale Degrees 1-3-5
Minor Chord Scale Degree Formula 1-♭3-5
Scale Degrees: 1 (root) 2 3 4 5 6 7 8/1 (octave)
F C G D A E
T A B
7 4 6 7 4 6 3 4
Altered Traditional Pattern #1
altered E major scale (altered with ♭3)
E Minor Chord
voicing 1-♭3-5

Chord Construction (Fmaj)

- 1) What is alphabet name of the chord? answer: "F"
- 2) Alphabet name is root of chord. "F" is the chord's root.
- 3) This root is the 1st degree of the same major scale. "F" is the 1st degree of the F major scale.
- 4) What are the member notes of this major scale? The member notes for the F major scale are F-G-A-B♭-C-D-E.
- 5) Use every other scale degree or member note in this major scale for chord construction: 1-3-5 = F-A-C.
- 6) All member notes must "fit" into the "parent" scale! For this example, "C" major is the "parent" scale because we are harmonizing the "C" major scale. Member notes F-A-C already "fit" into the "parent" scale, so no adjusting or altering is required. The resulting unaltered scale degrees are 1-3-5 and match the major chord formula.

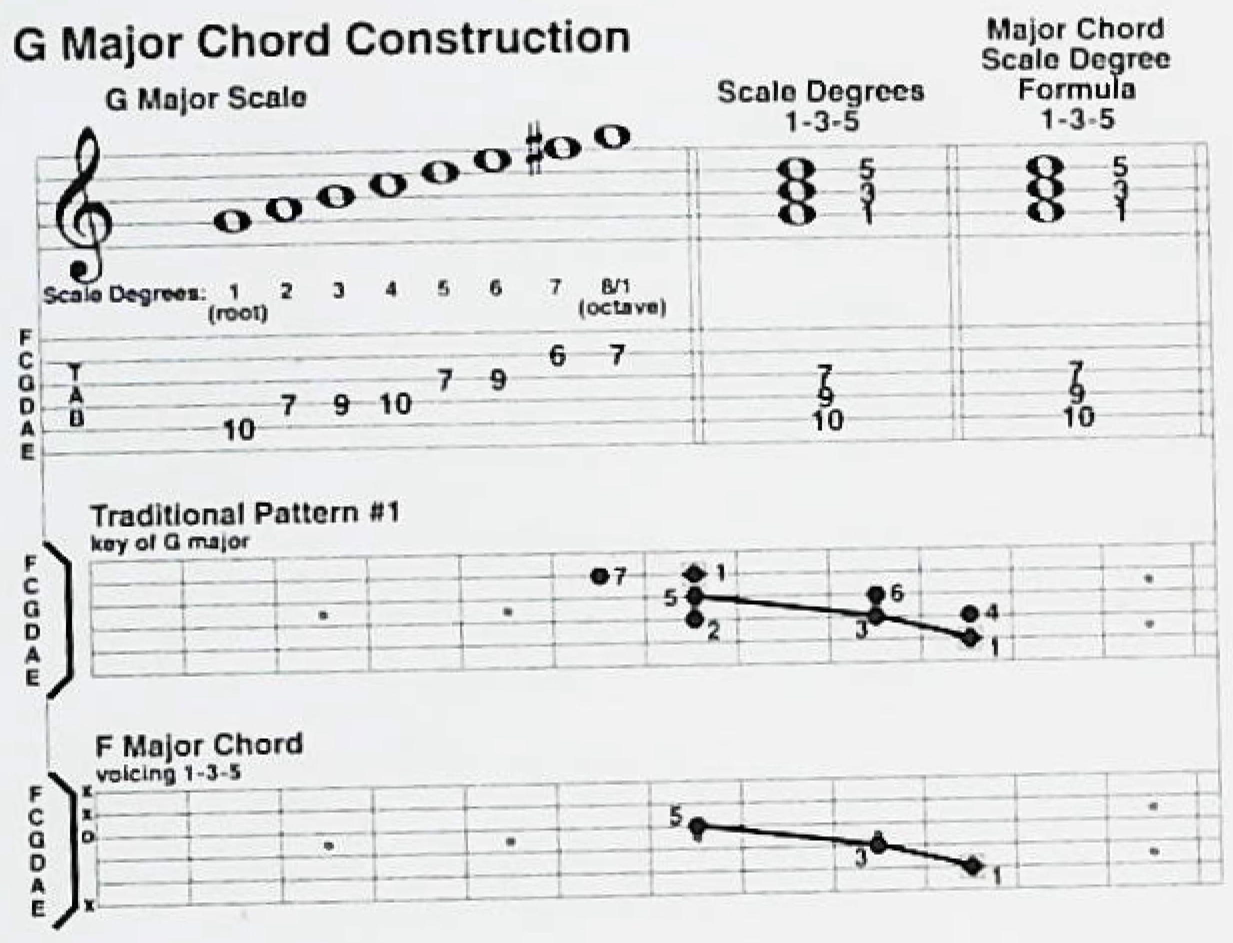
Example 11-C continued:



Chord Construction (Gmaj)

■ 1) What is alphabet name of the chord? answer: "G"
■ 2) Alphabet name is root of chord. "G" is the chord's root.
■ 3) This root is the 1st degree of the same major scale. "G" is the 1st degree of the G major scale.
■ 4) What are the member notes of this major scale? The member notes for the G major scale are G-A-B-C-D-E-F♯.
■ 5) Use every other scale degree or member note in this major scale for chord construction: 1-3-5 = G-B-D.
■ 6) All member notes must "fit" into the "parent" scale! For this example, "C" major is the "parent" scale because we are harmonizing the "C" major scale. Member notes G-B-D already "fit" into the "parent" scale, so no adjusting or altering is required. The resulting unaltered scale degrees are 1-3-5 and match the major chord formula.

Example 11-C continued:

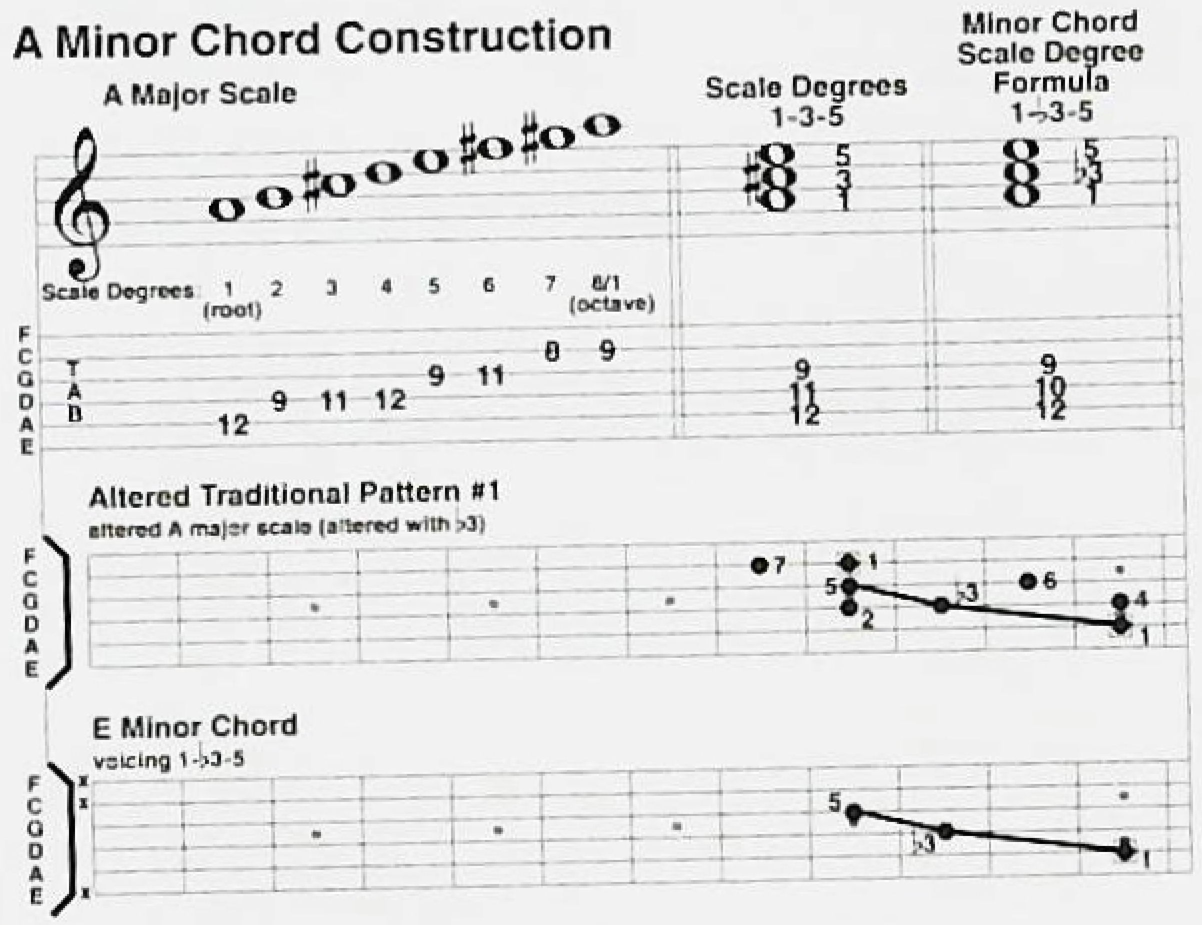


Chord Construction (Am)

■ 1) What is alphabet name of the chord? answer: "A."
■ 2) Alphabet name is root of chord. "A" is the chord's root.
■ 3) This root is the 1st degree of the same major scale. "A" is the 1st degree of the A major scale.
■ 4) What are the member notes of this major scale? The member notes for the A major scale are A-B-C♯-D-E-F♯-G♯.
■ 5) Use every other scale degree or member note in this major scale for chord construction: 1-3-5 = A-C♯-E.
■ 6) All member notes must "fit" into the "parent" scale! For this example "C" major is the "parent" scale because we are harmonizing the "C" major scale.

There is no C♯ in the C major scale! To "fit" into the "parent" scale, the 3rd degree C♯ needs to be *reduced* or altered *downwards* by a half-step to C. To accomplish this you must "flat" the 3rd degree. The resulting adjusted and/or altered scale degrees are 1-♭3-5 and match the minor chord formula.

Example 11-C continued:


A Minor Chord Construction
A Major Scale
Scale Degrees 1-3-5
Minor Chord Scale Degree Formula 1-♭3-5
Scale Degrees 1 (root) 2 3 4 5 6 7 8/1 (octave)
12 9 11 12 9 11 8 9
9 11 12
9 10 12
Altered Traditional Pattern #1
altered A major scale (altered with ♭3)
E Minor Chord
voicing 1-♭3-5

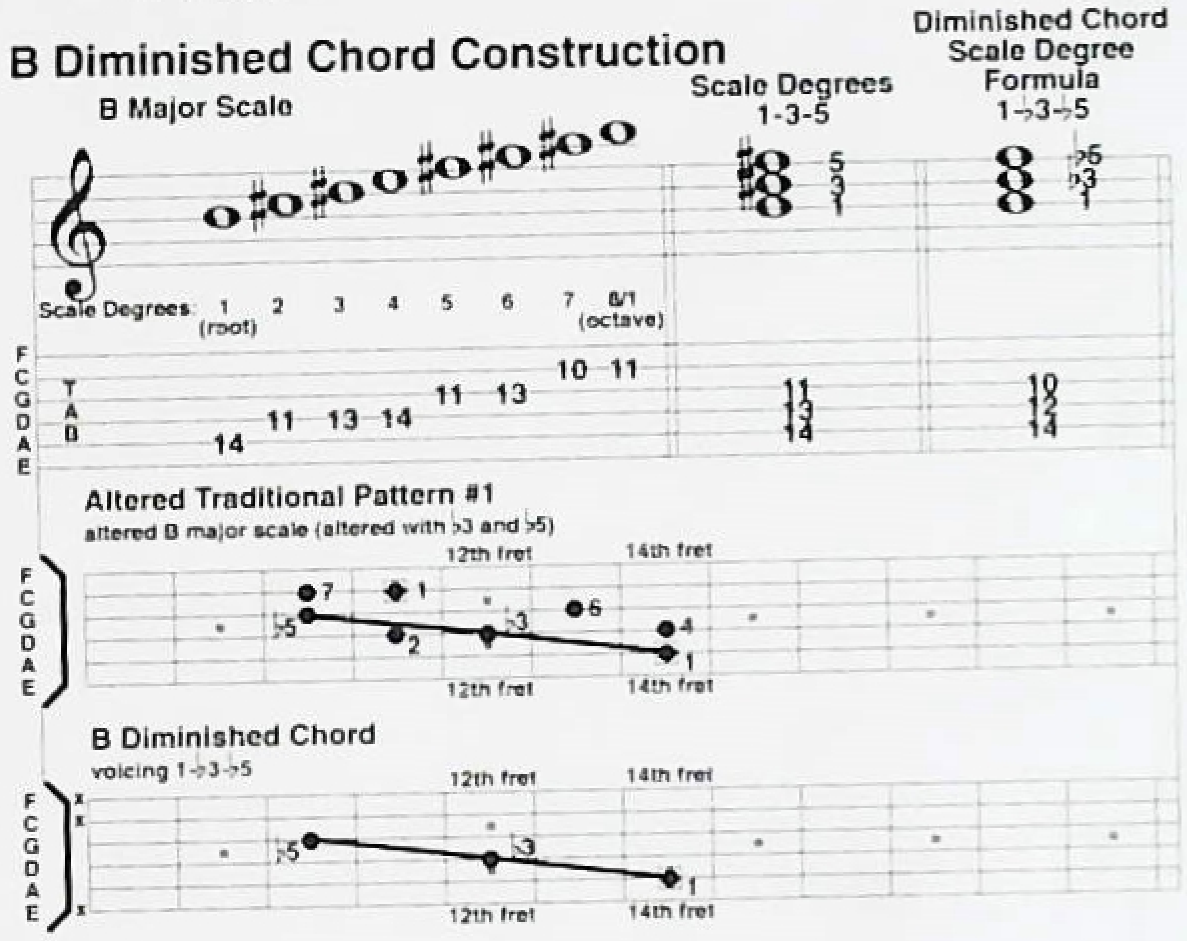
Chord Construction (Bdim)

■ 1) What is alphabet name of the chord? answer: "B"
■ 2) Alphabet name is root of chord. "B" is the chord's root.
■ 3) This root is the 1st degree of the same major scale. "B" is the 1st degree of the B major scale.
■ 4) What are the member notes of this major scale? The member notes for the B major scale are B-C♯-D♯-E-F♯-G♯-A♯.
■ 5) Use every other scale degree or member note in this major scale for chord construction: 1-3-5 = B-D♯-F♯.
■ 6) All member notes must "fit" into the "parent" scale! For this example, "C" major is the "parent" scale because we are harmonizing the "C" major scale.

There is no D♯ in the C major scale! To "fit" into the "parent" scale, the 3rd degree D♯ needs to be *reduced* or altered *downwards* by a half-step to D. To accomplish this you must "flat" the 3rd degree.

There is no F♯ in the C major scale! To "fit" into the "parent" scale, the 5th degree F♯ needs to be *reduced* or altered *downwards* by a half-step to F. To accomplish this you must "flat" the 5th degree. The resulting adjusted and/or altered scale degrees are 1-♭3-♭5 and match the diminished chord formula.

Example 11-C continued:


B Diminished Chord Construction
B Major Scale
Scale Degrees 1-3-5
Diminished Chord Scale Degree Formula 1-♭3-♭5
Scale Degrees: 1 (root) 2 3 4 5 6 7 8/1 (octave)
14 11 13 14 11 13 10 11
11 13 14
10 12 14
Altered Traditional Pattern #1
altered B major scale (altered with ♭3 and ♭5)
12th fret
14th fret
B Diminished Chord
voicing 1-♭3-♭5

"Do, Re, Me" & Chords

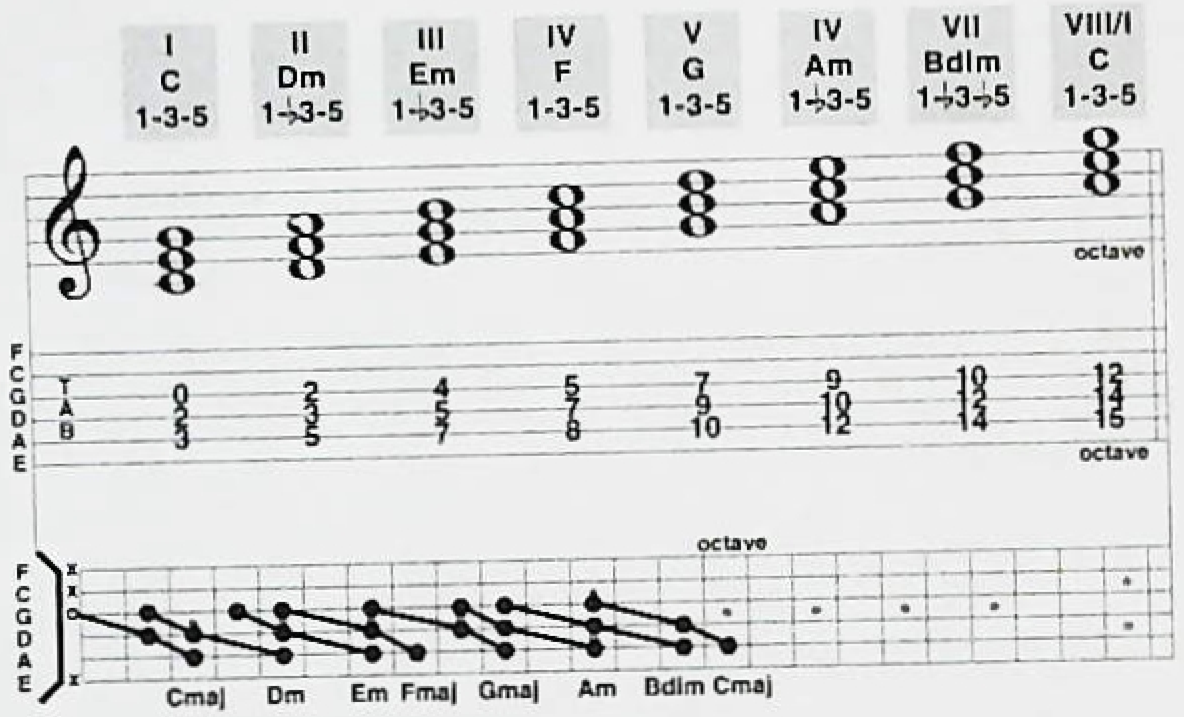
Using triad chords, *example 11-D* shows the harmonized C major scale with notation, TAB, and fingerboard diagrams and patterns. As you play the sequence of chords from I (root) to VII/I (octave), you will recognize the "Do, Re, Mi" scale. But, instead of single notes, now you're doing it with chords.

Look closely at the notation and you will see that every other tone or note from the C major scale has been used. Or, in music terminology, the tones are diatonic to the C major scale. As stated earlier, chords are constructed by using every other note of a diatonic scale unless the scale has been altered. Altered scales have occurred with D minor, E minor, A minor, and B diminished chords due to their adjusted flatted notes in order to adhere to the "parent" C major scale, resulting in minor and diminished chord formulas.

Example 11-D:

Harmonized C Major Scale

root position



"Inside" the Key Center

Whenever you're in a particular key center (such as the key of C major, for example), play the *chord tones* or notes of the same alphabet letter name scale (i.e. C major scale) when soloing or writing song melodies. For chording, play chord progressions utilizing the harmonized scale of the same scale (i.e the harmonized C major scale), and you will always blend chords perfectly with the key center. With this system, you will create perfect harmonies and always be *inside* the key center.

Note: *chord extensions, alterations,* and *key modulation* will be confronted in later Radical Rules levels.

IMPORTANT When you know the key center and notes or scale degree numbers of a diatonic scale, then you also know all possible notes (and/or numbers when using the formula/number system) for the chords, and vice-a-versa.

Inversion

The majority of chords discussed and analyzed up to this point have been *root position* chords. That is, the root has always been the lowest note of a chord voicing. By the book, root position chords are voiced 1-3-5 (in music terminology… root, 3rd, and 5th scale degrees). Changing this specific sequence or order of tones or notes is called a chord *inversion*. As a matter of fact, inversions of chords make it possible to create silky smooth ascending and descending bass lines commonly referred to as *voice leading*. Be aware that fraction inversion symbols are not readily used in today's music. *Slash chords* have replaced fraction inversion symbols and will be discussed in other Radical Rules levels.

Each triad chord has the possibility to appear in three different inversion sequences or order of tones or notes. They are listed below in *example 11-E*.

Example 11-E:

Triad Inversions

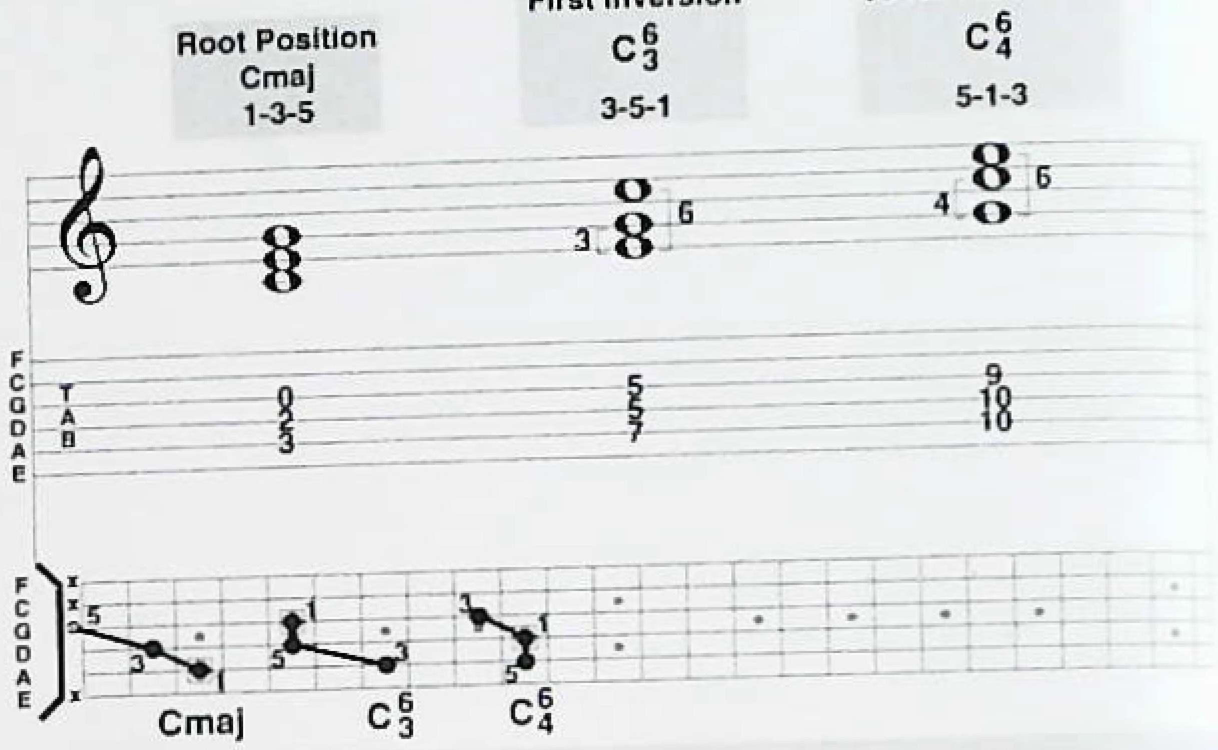
Inversion Name	Inversion Formula	Example: C major triad chord	
		Tones or Notes	Inversion Symbol
Root Position	1-3-5	C-E-G	Cmaj
First Inversion	3-5-1	E-G-C	C^6_3
Second Inversion	5-1-3	G-C-E	C^6_4

Don't forget, there is a difference between *inversion* and *voicing!* Loosely defined, an *inversion* is textbook defined chord voicing. *Voicing* is everything else. When performing with a group, it's really fast and easy to yell to the band that the next chord is *"C major, 2nd inversion,"* or *"C major, voicing 5-1-3."* Personally, I describe all chords with the voicing system because some musicians are not schooled in inversions. A lot of musicians don't understand the concept of voicing either. Many players think a new chord voicing occurs whenever different fingers or different chord positions are employed. Of course, this is inaccurate. Just remember, if the chord doesn't fit an inversion formula, it's considered a voicing and you must describe the sequence of tones or notes.

Example 11-F shows how the fractions for the C major triad chord inversion symbols are created. You only need to remember that each number in a fraction represents the distance or interval above the chord's root and/or lowest note.

Example 11-F:

C Major Triad Inversions



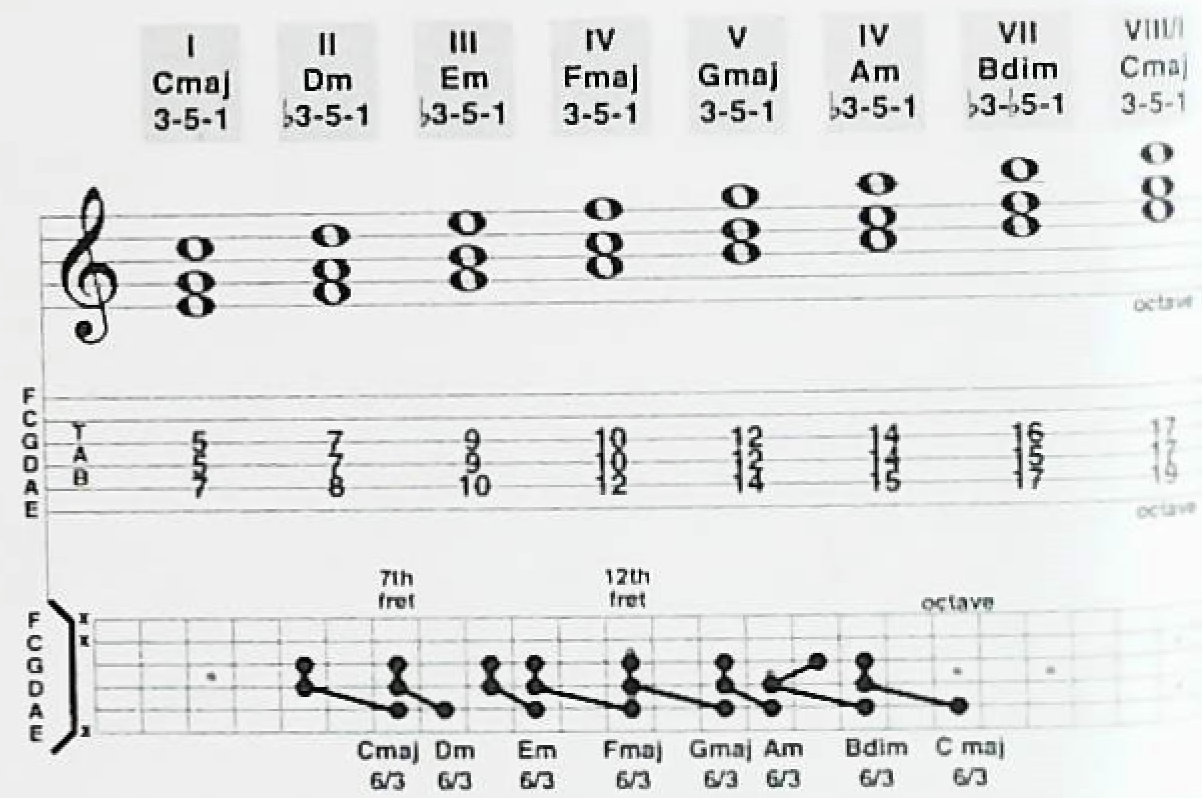
Harmonized Inversions

The illustration in *example 11-G* demonstrates the *first inversion* and *example 11-H* the *second inversion* the harmonized C major scale. In a previous example (*example 11-D*) the C major scale can be seen in root position. Don't forget, due to Radical Rules tuning (i.e. tuning the guitar Zgrid, in perfect 4th's) patterns and shapes cannot only be played intact up and down the fretboard, but ***across*** the fretboard as well. You can't do that with traditional tuning! So, don't feel confined or trapped to only performing on one set of strings; locate the root and apply the proper formula, pattern, and/or shape. For the example below, I have selected strings 3, 4, and 5 for chord placement, with 3rd and 4th string positions acting as root for each chord. Feel free to locate the root on any of the six strings (i.e really make use of all six strings). The entire purpose of Radical Rules is to offer the ability to perform and ***repeat*** the same patterns and shapes over the entire fretboard, and to really understand what you're playing.

Example 11-G:

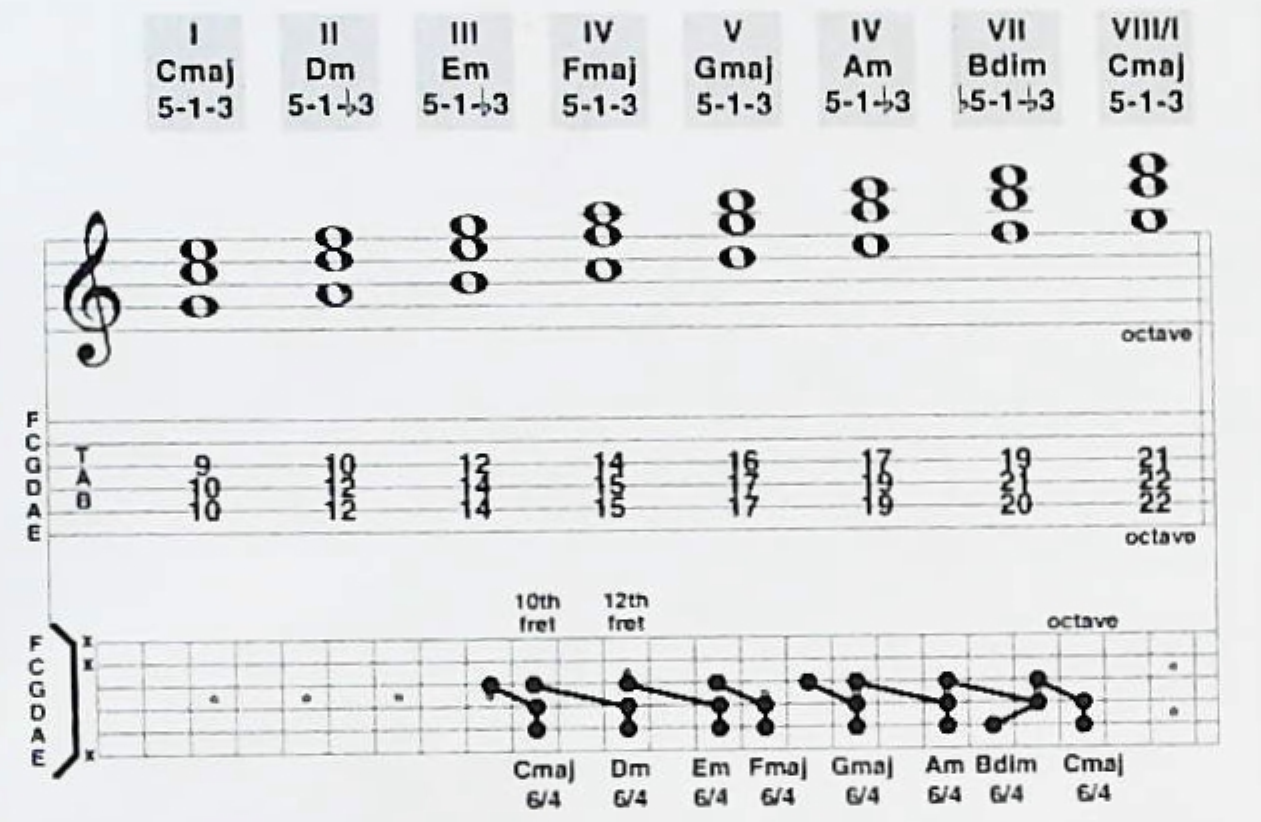
Harmonized C Major Scale

first inversion



Example 11-H:

Harmonized C Major Scale
second inversion



Homework/Chapter 11

ASSIGNMENT ONE… Write on paper and perform an original chord chart using triad chords in the key of C major. Use the harmonized C major scale. Don't forget to count and/or sing aloud, tap your foot, and make use of the mega-important metronome.

ASSIGNMENT TWO… Be able to play the harmonized C major scale using root position, first inversion, and second inversion triadic chord forms. Develop the ability to perform these scales both up-the-scale and down-the-scale at 40mm (metronome marking) with quarter notes. That's one beat or click equaling one chord. Your *working speed* goal should be 120mm in quarter notes. The term "working speed" is the recommended speed required to survive in the "real" music world.

ASSIGNMENT THREE… "Song-of-the-Week."

ASSIGNMENT FOUR… Record all assignments, analyze what's good and what's not so good with your performances. Do it for **one week!**

THE BOTTOM LINE… Be able to identify scale degrees (voicing) for all root position, first inversion, and second inversion chords of the harmonized C major scale using triad chords.

IMPORTANT To increase speed and pursue speed-picking, it's mandatory to find a balance between *perfection* and *pushing-the-limit*. Always set your metronome 5, 10 or 20 bpm higher than your best mm for a few minutes, and then return to a *no-mistakes* metronome speed (i.e. constantly flip-flop between these two speeds). Sure, you'll make mistakes and play somewhat out-of-control. But, you need to "push" yourself without losing sight of perfection if you want to develop higher picking speeds. **You need to *push the envelope!***

CHAPTER 12

Harmonized Diatonic Four Note Chords

If you take the triad chord form and add the 7th degree, the chord becomes a four note *seventh chord*. It's called a seventh chord because there is always an interval of a seventh between the lowest and highest notes of each chord. As with triad chords, you can harmonize diatonic scales with seventh chords. *Example 12-A* is a textbook-style chart showing Roman numeral, chord quality, formula, and standard chord abbreviation for the major scale harmonized with seventh chords. *Example 12-B* shows the same, but with the addition of diatonic C major scale notes.

Example 12-A:

Harmonized Major Scale
seventh chords

Roman Numeral	Chord Quality	Formula	Roman Numeral + Chord Quality
I	Major Seventh	1-3-5-7	Imaj7
II	Minor Seventh	1-♭3-5-♭7	IIm7
III	Minor Seventh	1-♭3-5-♭7	IIIm7
IV	Major Seventh	1-3-5-7	IVmaj7
V	Dominant Seventh	1-3-5-♭7	V7
VI	Minor Seventh	1-♭3-5-♭7	VIm7
VII	Minor Seventh Flat Five	1-♭3-♭5-♭7	VIIm7 ♭5

Example 12-B:

Harmonized C Major Scale
seventh chords

Roman Numeral	Chord Quality	Formula	Roman Numeral + Chord Quality
I=C	C Major Seventh	1-3-5-7 = C-E-G-B	Imaj = Cmaj7
II=D	D Minor Seventh	1-♭3-5-♭7 = D-F-A-C	IIm = Dm7
III=E	E Minor Seventh	1-♭3-5-♭7 = E-G-B-D	IIIm = Em7
IV=F	F Major Seventh	1-3-5-7 = F-A-C-E	IVmaj = Fmaj7
V=G	G Dominant Seventh	1-3-5-♭7 = G-B-D-F	Vmaj = G7
VI=A	A Minor Seventh	1-♭3-5-♭7 = A-C-E-G	VIm = Am7
VII=B	B Minor Seventh Flat Five	1-♭3-♭5-♭7 = B-D-F-A	VIIm7 ♭5 = Bm7 ♭5

Harmonized 7th Chords

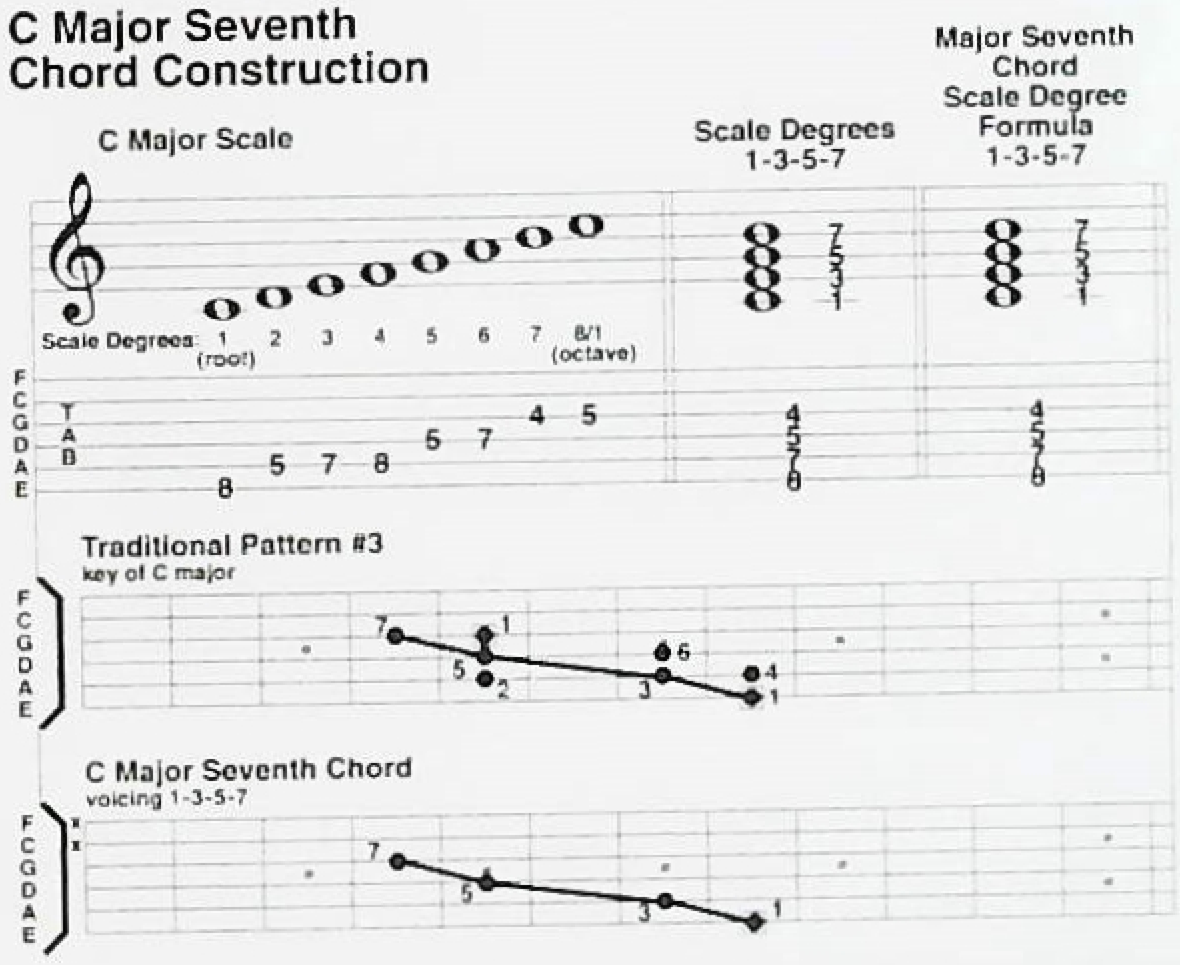
The C major scale is harmonized with four note seventh chords in *example 12-C*. The six questions, answers, and procedures for four note seventh chord construction will also be discussed. Please note that chords I, II, and III have roots on the low E string. Chords IV, V, and VI have their roots on the A string. Finally, chord VII is on the D string. Jumping from string to string within a diatonic scale with single string lines or chord shapes is sometimes referred to as the *string transfer system*. This strategy for jumping strings keeps your frethand working in a small, comfortable area of the guitar. Slipping and sliding up and down the entire fretboard while trying to perform diatonic scales and harmonized chords with root placement on the same single string is not good guitar technique. The string transfer system definitely minimizes your movements and protects against locking yourself into a single root location. In other words, it prevents against playing in a "locked" position. Locating roots is the first major step to begin *playing over changes*. Look closely and you will see the roots for each chord following the URMSP. Once again, you only need to know one major scale pattern for maximum output!

Chord Construction (Cmaj7)

- 1) What is alphabet name of the chord? answer: "C"
- 2) Alphabet name is root of chord. "C" is the chord's root.
- 3) This root is the 1st degree of the same major scale. "C" is the 1st degree of the C major scale.
- 4) What are the member notes of this major scale? The member notes for the C major scale are C-D-E-F-G-A-B.
- 5) Use every other scale degree or member note in this major scale for chord construction: 1-3-5-7 = C-E-G-B.
- 6) All member notes must "fit" into the "parent" scale! For this example, "C" major is the "parent" scale because we are harmonizing the "C" major scale. Member notes C-E-G-B already "fit" into the "parent" scale, so no adjusting or altering is required. The resulting unaltered scale degrees are 1-3-5-7 and match the major seventh chord formula.

Example 12-C:

C Major Seventh Chord Construction



Chord Construction (Dm7)

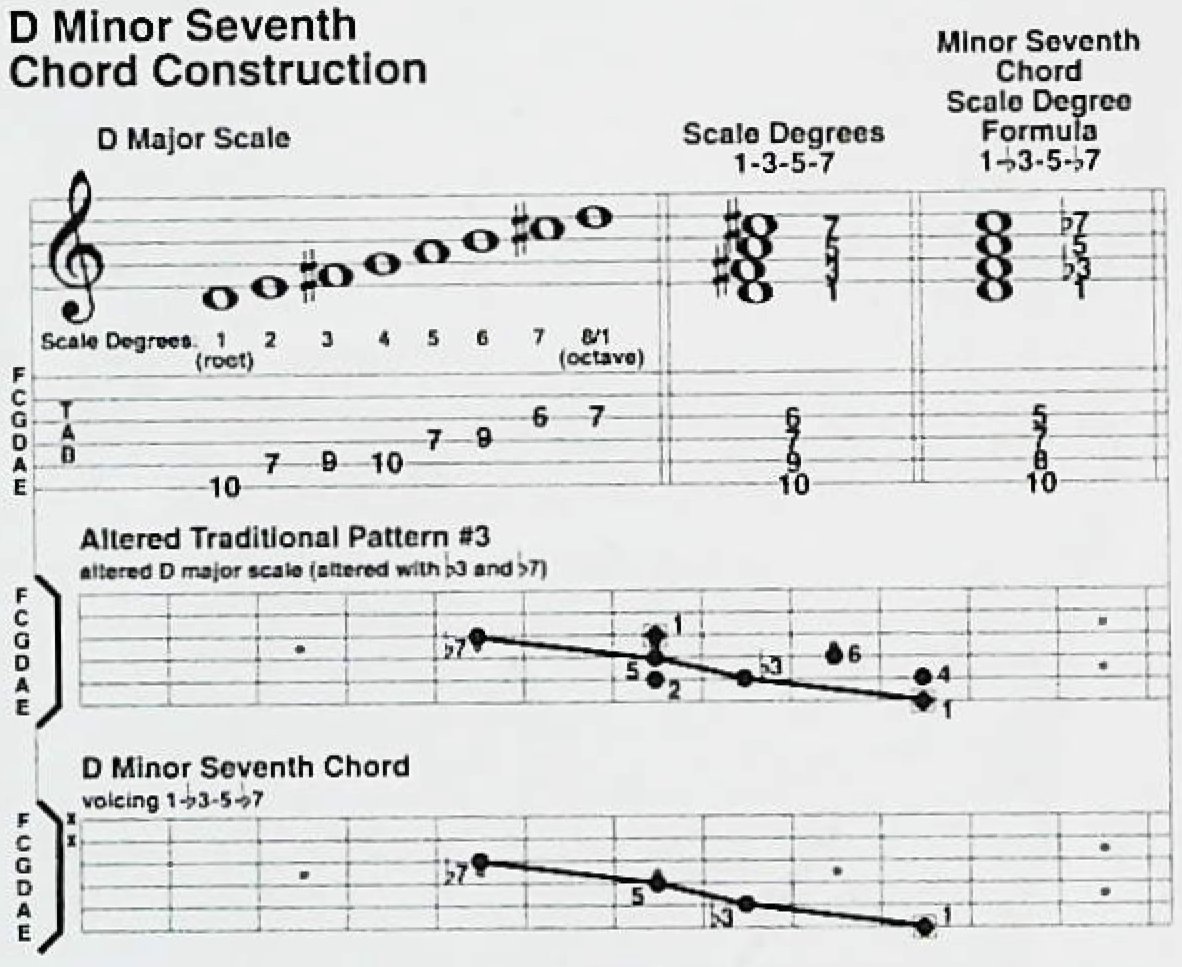
- 1) What is alphabet name of the chord? answer: "D"
- 2) Alphabet name is root of chord. "D" is the chord's root.
- 3) This root is the 1st degree of the same major scale. "D" is the 1st degree of the D major scale.
- 4) What are the member notes of this major scale? The member notes for the D major scale are D-E-F♯-G-A-B-C♯.
- 5) Use every other scale degree or member note in this major scale for chord construction: 1-3-5-7 = D-F♯-A-C♯.
- 6) All member notes must "fit" into the "parent" scale! For this example, "C" major is the "parent" scale because we are harmonizing the "C" major scale.

There is no F♯ in the C major scale! To "fit" into the "parent" scale, the 3rd degree F♯ needs to be *reduced* or altered *downwards* by a half-step to F. To accomplish this you must "flat" the 3rd degree.

There is no C♯ in the C major scale! To "fit" into the "parent" scale, the 7th degree C♯ needs to be *reduced* or altered *downwards* by a half-step to C, so "flat" the 7th degree. The resulting adjusted/altered scale degrees are 1-♭3-5-♭7 and match the minor seventh chord formula.

Example 12-C continued:

D Minor Seventh Chord Construction


Minor Seventh Chord Scale Degree Formula 1-♭3-5-♭7
D Major Scale
Scale Degrees 1-3-5-7
Scale Degrees: 1 (root) 2 3 4 5 6 7 8/1 (octave)
T A B
10 7 9 10 7 9 6 7
Altered Traditional Pattern #3
altered D major scale (altered with ♭3 and ♭7)
D Minor Seventh Chord
voicing 1-♭3-5-♭7

Chord Construction (Em7)

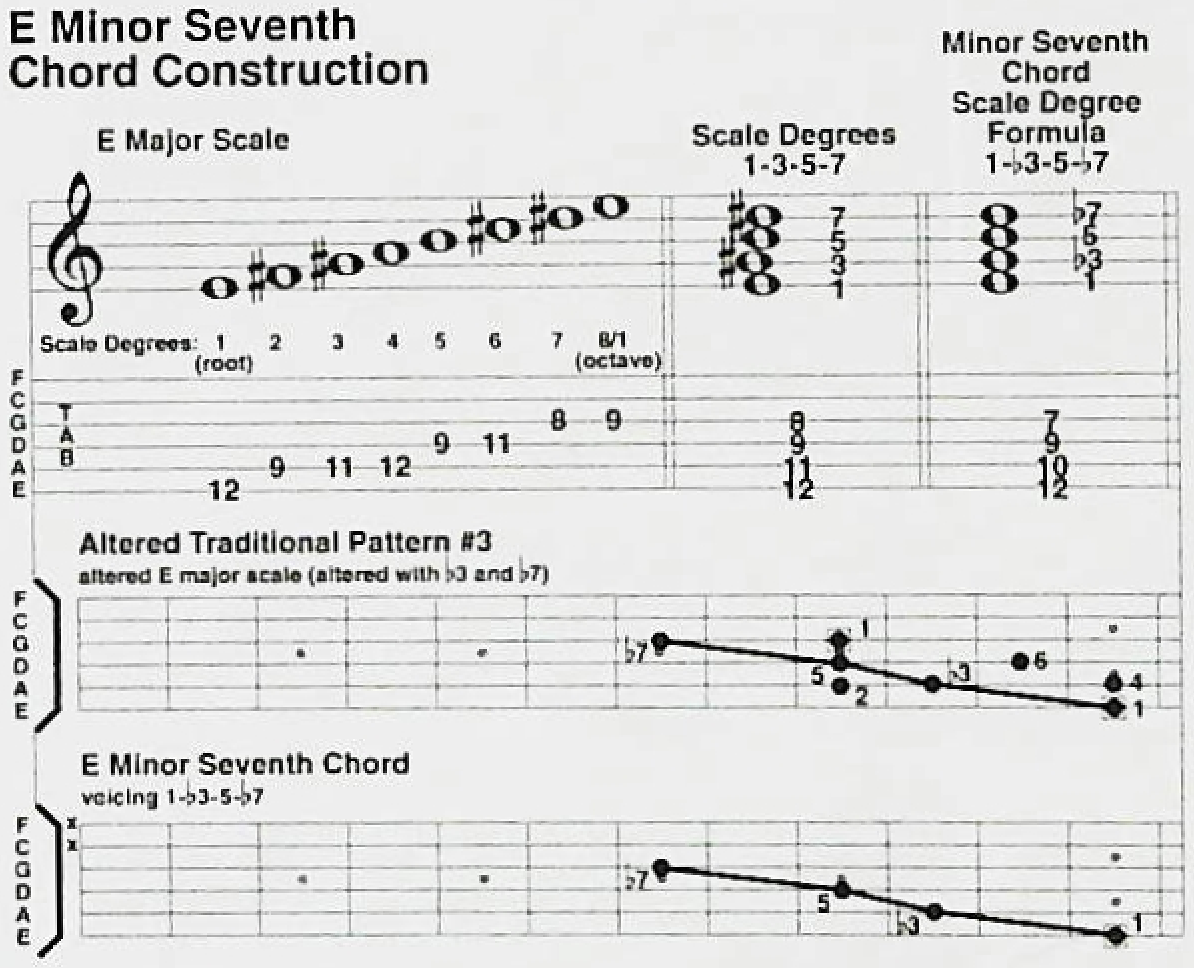
- 1) What is alphabet name of the chord? answer: "E"
- 2) Alphabet name is root of chord. "E" is the chord's root.
- 3) This root is the 1st degree of the same major scale. "E" is the 1st degree of the E major scale.
- 4) What are the member notes of this major scale? The member notes for the E major scale are E-F♯-G♯-A-B-C♯-D♯.
- 5) Use every other scale degree or member note in this major scale for chord construction: 1-3-5-7 = E-G♯-B-D♯.
- 6) All member notes must "fit" into the "parent" scale! For this example, "C" major is the "parent" scale because we are harmonizing the "C" major scale.

There is no G♯ in the C major scale! To "fit" into the "parent" scale, the 3rd degree G♯ needs to be *reduced* or altered *downwards* by a half-step to G. To accomplish this you must "flat" the 3rd degree.

There is no D♯ in the C major scale! In order to "fit" into the "parent" scale, the 7th degree D♯ needs to be *reduced*/altered *downwards* by a half-step to D, so "flat" the 7th degree. The resulting adjusted/altered scale degrees are 1-♭3-5-♭7, matches the minor seventh chord formula.

Example 12-C continued:

E Minor Seventh Chord Construction

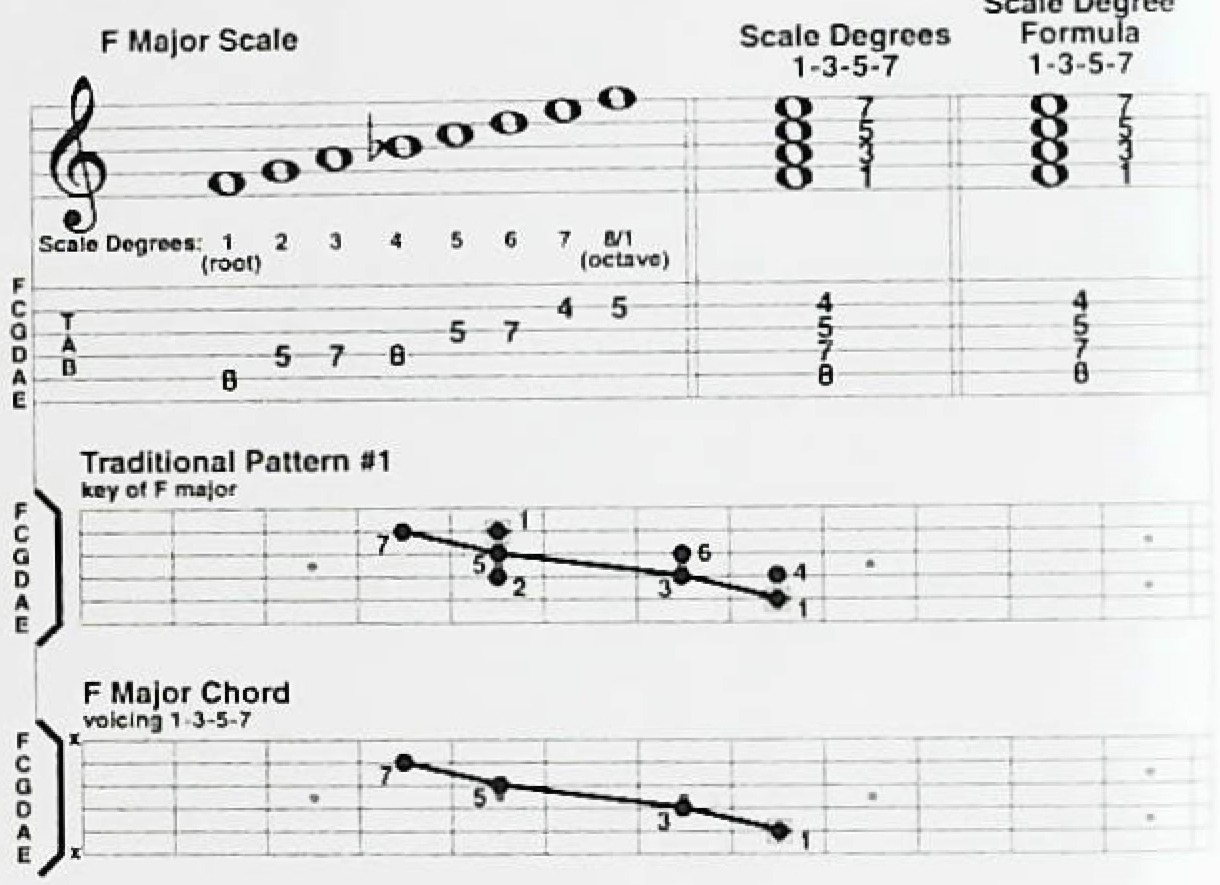

Minor Seventh Chord Scale Degree Formula 1-♭3-5-♭7
E Major Scale
Scale Degrees 1-3-5-7
Scale Degrees: 1 (root) 2 3 4 5 6 7 8/1 (octave)
T A B
12 9 11 12 9 11 8 9
Altered Traditional Pattern #3
altered E major scale (altered with ♭3 and ♭7)
E Minor Seventh Chord
voicing 1-♭3-5-♭7

Chord Construction (Fmaj7)

- 1) What is alphabet name of the chord? answer: "F"
- 2) Alphabet name is root of chord. "F" is the chord's root.
- 3) This root is the 1st degree of the same major scale. "F" is the 1st degree of the F major scale.
- 4) What are the member notes of this major scale? The member notes for the F major scale are F-G-A-B♭-C-D-E.
- 5) Use every other scale degree or member note in this major scale for chord construction: 1-3-5-7 = F-A-C-E.
- 6) All member notes must "fit" into the "parent" scale! "C" major is the "parent" scale because we are harmonizing the "C" major scale. Member notes F-A-C-E already "fit" into the "parent" scale, so no adjusting or altering is required. The resulting unaltered scale degrees are 1-3-5-7 and match the major seventh chord formula.

Example 12-C continued:

F Major Seventh Chord Construction

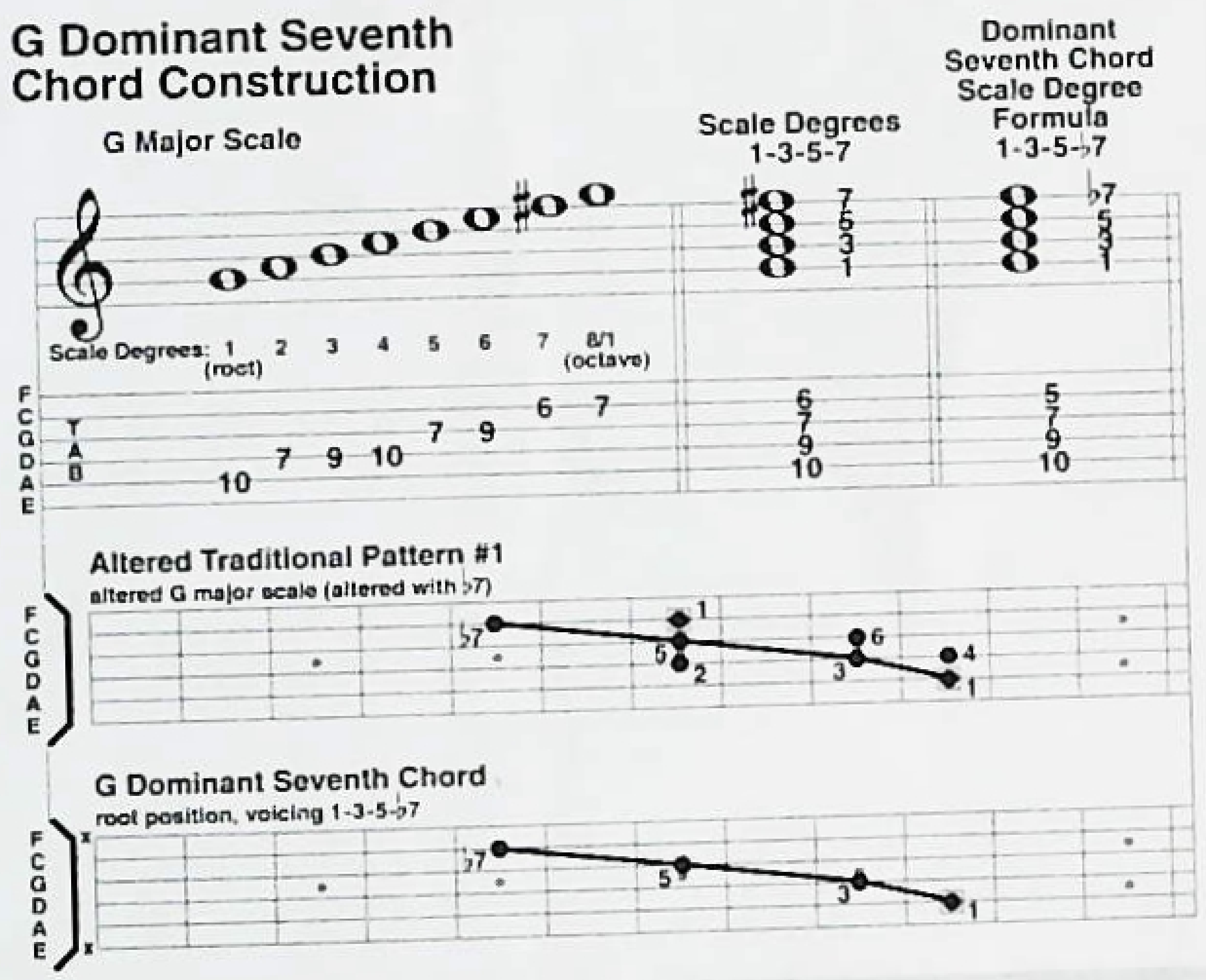


Chord Construction (G7)

- 1) What is alphabet name of the chord? answer: "G"
- 2) Alphabet name is root of chord. "G" is the chord's root.
- 3) This root is the 1st degree of the same major scale. "G" is the 1st degree of the G major scale.
- 4) What are the member notes of this major scale? The member notes for the G major scale are G-A-B-C-D-E-F♯.
- 5) Use every other scale degree or member note in this major scale for chord construction: 1-3-5-7 = G-B-D-F♯.
- 6) All member notes must "fit" into the "parent" scale! For this example, "C" major is the "parent" scale because we are harmonizing the "C" major scale.

There is no F♯ in the C major scale! In order to "fit" into the "parent" scale, the 7th degree F♯ needs to be *reduced* and/or altered *downwards* by a half-step to F. To accomplish this you must "flat" the 7th degree. The resulting adjusted and/or altered scale degrees are 1-3-5-♭7 and match the dominant seventh chord formula.

Example 12-C continued:



G Dominant Seventh Chord Construction

G Major Scale
Scale Degrees 1-3-5-7
Dominant Seventh Chord Scale Degree Formula 1-3-5-♭7
Scale Degrees: 1 (root) 2 3 4 5 6 7 8/1 (octave)
F C G D A E
T A B
10 7 9 10 7 9 6 7
6 7 9 10
5 7 9 10
Altered Traditional Pattern #1
altered G major scale (altered with ♭7)
♭7 5 1 2 3 6 4 1
G Dominant Seventh Chord
root position, voicing 1-3-5-♭7
♭7 5 3 1

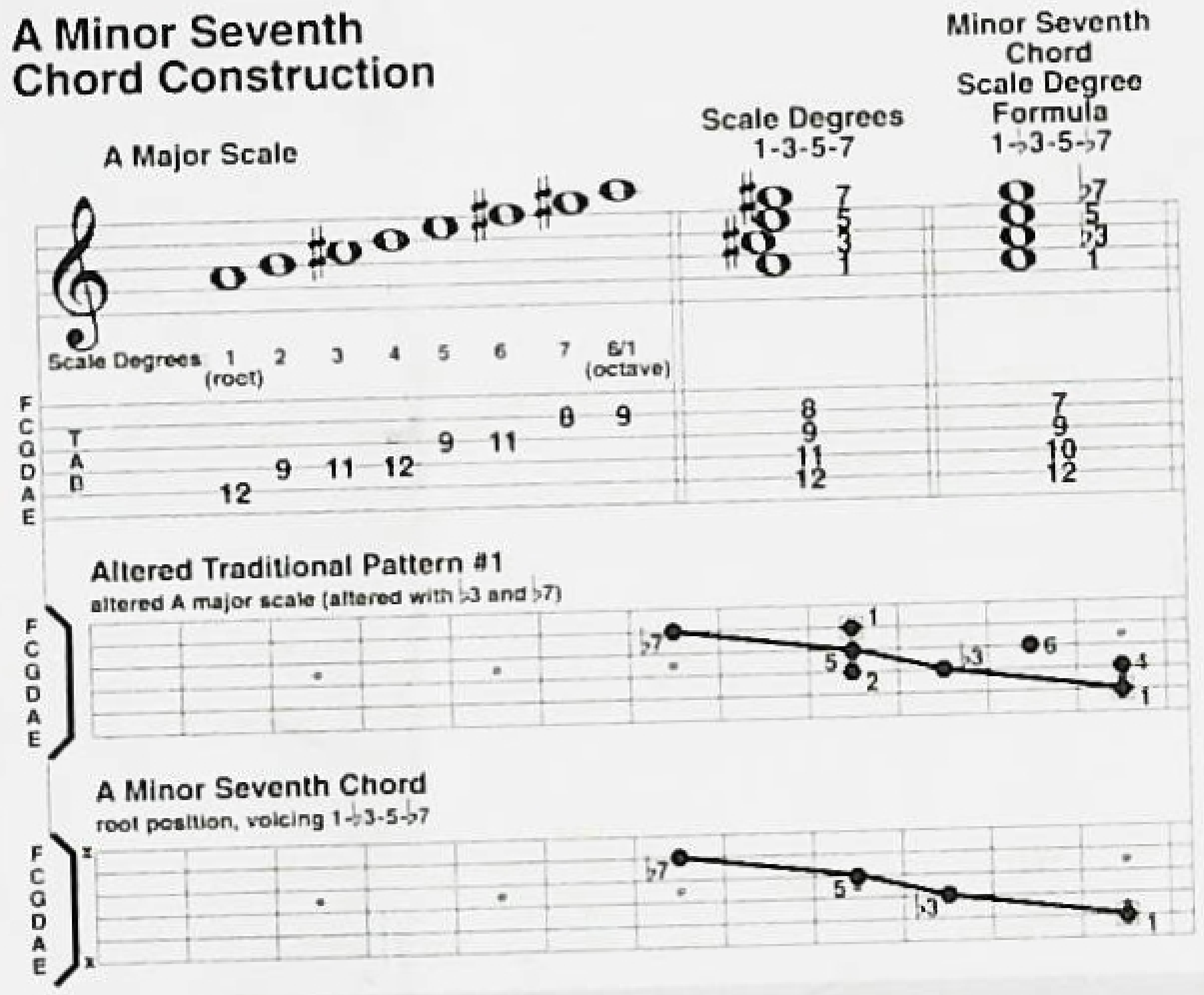
Chord Construction (Am7)

- 1) What is alphabet name of the chord? answer: "A"
- 2) Alphabet name is root of chord. "A" is the chord's root.
- 3) This root is the 1st degree of the same major scale. "A" is the 1st degree of the A major scale.
- 4) What are the member notes of this major scale? The member notes for the A major scale are A-B-C♯-D-E-F♯-G♯.
- 5) Use every other scale degree or member note in this major scale for chord construction: 1-3-5-7 = A-C♯-E-G♯.
- 6) All member notes must "fit" into the "parent" scale! "C" major is the "parent" scale because we are harmonizing the "C" major scale.

There is no C♯ in the C major scale! In order to "fit" into the "parent" scale, the 3rd degree C♯ needs to be *reduced* or altered *downwards* by a half-step to C. To accomplish this you must "flat" the 3rd degree.

There is no G♯ in the C major scale! To "fit" into the "parent" scale, the 7th degree G♯ needs to be *reduced* or altered *downwards* by a half-step to G, so "flat" the 7th degree. The resulting adjusted and/or altered scale degrees are 1-♭3-5-♭7 and match the minor seventh chord formula.

Example 12-C continued:



A Minor Seventh Chord Construction

A Major Scale
Scale Degrees 1-3-5-7
Minor Seventh Chord Scale Degree Formula 1-♭3-5-♭7
Scale Degrees 1 (root) 2 3 4 5 6 7 8/1 (octave)
F C G D A E
T A B
12 9 11 12 9 11 8 9
8 9 11 12
7 9 10 12
Altered Traditional Pattern #1
altered A major scale (altered with ♭3 and ♭7)
♭7 5 1 2 ♭3 6 4 1
A Minor Seventh Chord
root position, voicing 1-♭3-5-♭7
♭7 5 ♭3 1

Chord Construction (Bm7♭5)

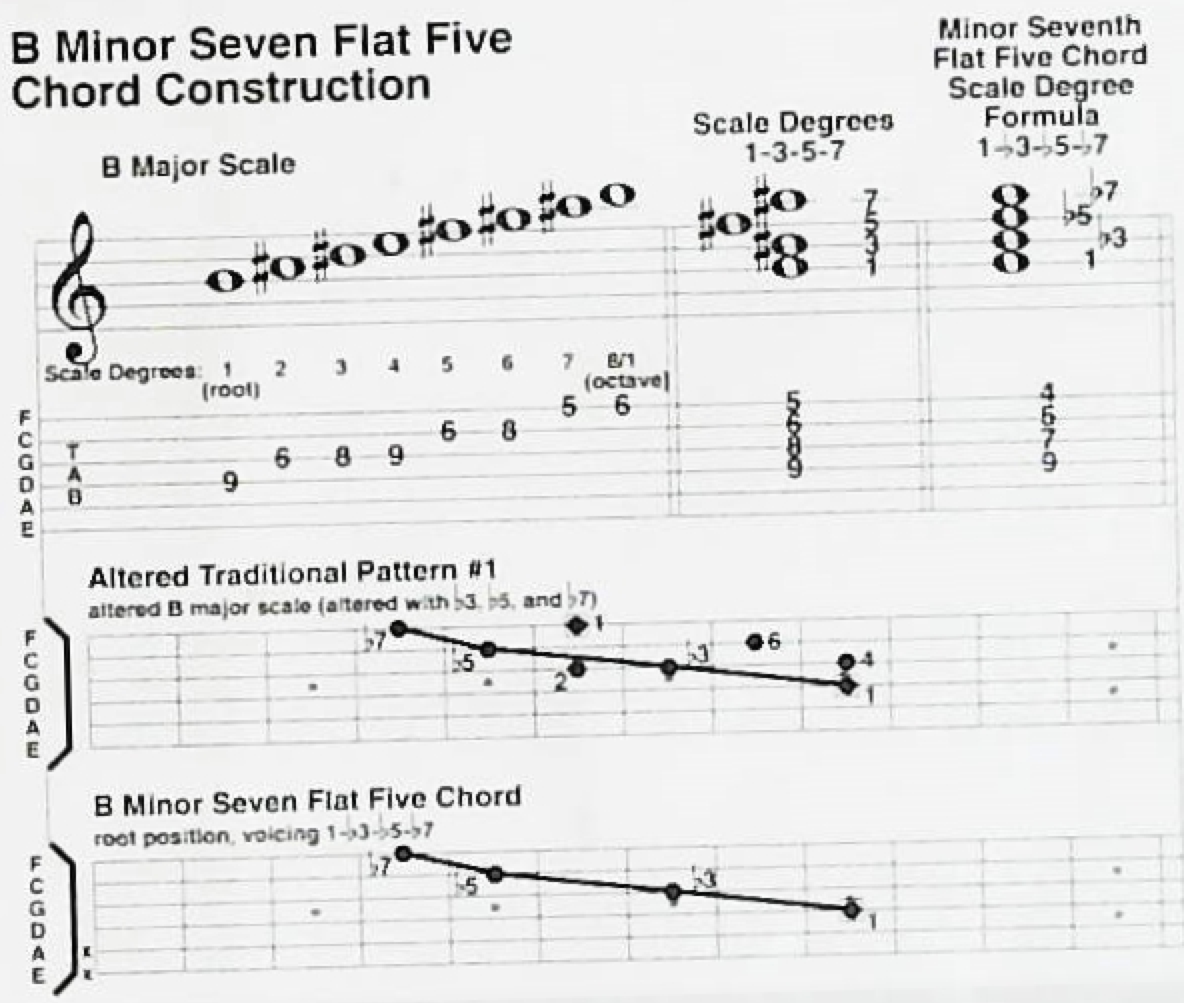
- 1) What is alphabet name of the chord? answer: "B"
- 2) Alphabet name is root of chord. "B" is the chord's root.
- 3) This root is the 1st degree of the same major scale. "B" is the 1st degree of the B major scale.
- 4) What are the member notes of this major scale? The member notes for the B major scale are B-C♯-D♯-E-F♯-G♯-A♯.
- 5) Use every other scale degree or member note in this major scale for chord construction: 1-3-5-7 = B-D♯-F♯-A♯.
- 6) All member notes must "fit" into the "parent" scale! For this example, "C" major is the "parent" scale because we are harmonizing the "C" major scale.

There is no D♯ in the C major scale! To "fit" into the "parent" scale, the 3rd degree D♯ needs to be *reduced* or altered *downwards* by a half-step to D. To accomplish this you must "flat" the 3rd degree.

There is no F♯ in the C major scale! In order to "fit" into the "parent" scale, the 5th degree F♯ needs to be *reduced* or altered *downwards* by a half-step to F. To accomplish this you must "flat" the 5th degree.

There is no A♯ in the C major scale! To "fit" into the "parent" scale, the 7th degree A♯ needs to be *reduced* or altered *downwards* by a half-step to A. To accomplish this you must "flat" the 7th degree. The resulting adjusted and/or altered scale degrees are 1-♭3-♭5-♭7 and match the minor seven flat five chord formula.

Example 12-C continued:



B Minor Seven Flat Five Chord Construction

B Major Scale
Scale Degrees 1-3-5-7
Minor Seventh Flat Five Chord Scale Degree Formula 1-♭3-♭5-♭7
Scale Degrees: 1 (root) 2 3 4 5 6 7 8/1 (octave)
F C G D A E
T A B
9 6 8 9 6 8 5 6
5 6 8 9
4 6 7 9
Altered Traditional Pattern #1
altered B major scale (altered with ♭3, ♭5, and ♭7)
♭7 ♭5 1 2 ♭3 6 4 1
B Minor Seven Flat Five Chord
root position, voicing 1-♭3-♭5-♭7
♭7 ♭5 ♭3 1

7th Chord Inversions

As with triad chords, seventh chords can be described and played as *inversions*. Each four note seventh chord has the possibility to appear in four different sequences or order of tones and/or notes. As mentioned earlier, if a specific voicing does not fit one of the inversion formulas, it is considered a *voicing* and you must state the order or sequence of notes. Be aware that fraction inversion symbols are not readily used in today's music. *Slash chords* have replaced fraction inversion symbols and will be discussed in later Radical Rules chapters. Also, don't forget that all chords (including seventh chords) can be voiced without using the complete list of tones stated in a chord's formula. For example, a seventh chord's formula 1-3-5-7 can be *re-voiced* without the root as 3-5-7. If it sounds good to your ear, go for it! (There are no *Music Police!*)

As mentioned above, each four note seventh chord has the possibility to appear in four textbook inversion sequences (*Example 12-D*).

Example 12-D:

Seventh Chord Inversions

Inversion Name	Inversion Formula	Example: C major seventh chord	
		Tones or Notes	Inversion Symbol
Root Position	1-3-5-7	C-E-G-B	Cmaj7
First Inversion	3-5-7-1	E-G-B-C	C^6_5
Second Inversion	5-7-1-3	G-B-C-E	C^4_3
Third Inversion	7-1-3-5	B-C-E-G	C^2

"Do, Re, Mi" with 7th's

Example 12-E demonstrates the harmonized C major scale with four note seventh chords in root position. The same was presented in *example 12-C*, but is now shown and compared on one fretboard. As you read through and play the patterns, once again you will recognize the familiar "Do, Re, Mi" scale. But, due to the addition of the seventh degree, the characteristic jazz/fusion sound really comes alive.

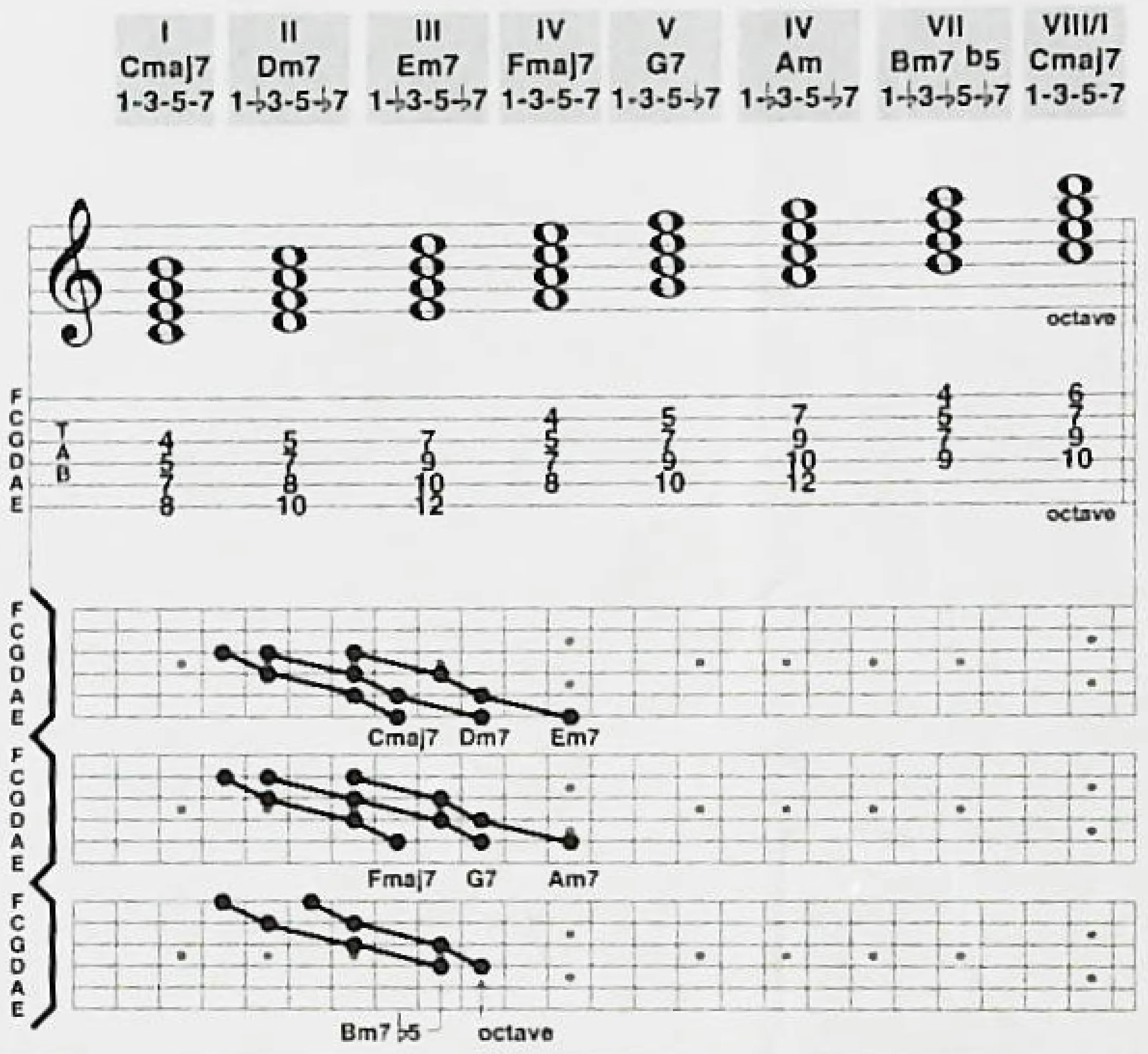
Example 12-F demonstrates my personal choice for seventh chord voicing. Voicing 1-5-7-3 places the index finger on the chord's root and is the only other example besides root position (voicing 1-3-5-7) used to demonstrate four note seventh chord voicings and inversions. If you like the sound of the seventh chord, then it's up to you to seek-out other voicings and inversions such as voicing 1-7-3-5. I like using my index finger for locating the root of both chords and scales. It's so natural because we use it everyday for pointing (*"Hey, I live over there..."* with your arm stretched horizontally and your index finger pointing the way) and counting (when you count with fingers, the index finger is always number one). Since the root of a chord or scale pattern is also number one, why fight *Mother Nature?* Get your index finger to the root... lock-it-in and bolt-it-down!

Note... Finger positions are not presented in *example 12-E* and *example 12-F*. It's up to you to determine the best possible fingering for your frethand. One suggestion... ***barre whenever and wherever possible!*** To *barre* an interval or chord means the use of one finger to fret two or more strings at the same time and same fret number location, and is often the preferred fingering method. This is done in lieu of using one finger per each string for fretting intervals and chords. To barre with flattened fingers sounds much different than fingertips. The combination of flesh and bone definitely affects your guitar's overall tone.

Example 12-E:

Harmonized C Major Scale with Seventh Chords

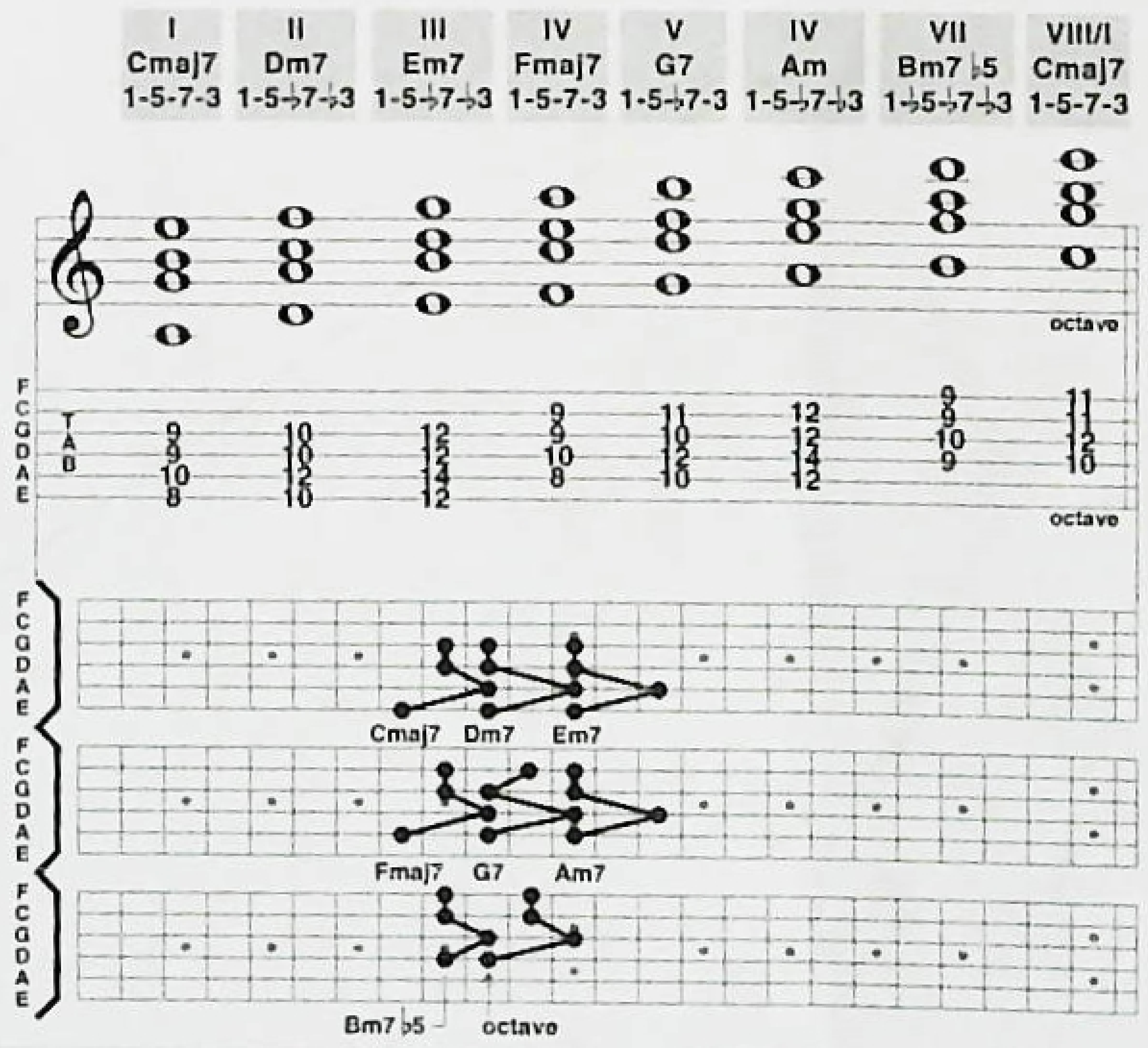
root position



Example 12-F:

Harmonized C Major Scale with Seventh Chords

voicing 1-5-7-3



IMPORTANT Root position seventh chords (voicing 1-3-5-7) require a big, wide *stretch*. This is one major reason I personally use and recommend voicing 1-5-7-3 whenever seventh chords are required. If you prefer root position seventh chords, be careful not to damage your hands! Root position chords (i.e. chords voiced from low to high scale degrees using every other note such as 1-3-5-7-9-11-13) are commonly referred to as *piano chords, piano chord voicing,* or simply *piano voicing* because pianists typically employ this chord voicing for both reference and performance.

Homework/Chapter 12

ASSIGNMENT ONE... Write on paper and perform an original chord chart in the key of C major using the harmonized C major scale with seventh chords. Count and/or sing aloud, tap your foot, and crank-up your metronome, dude!

ASSIGNMENT TWO... Be able to play the harmonized C major scale with seventh chords using root position and voicing 1-5-7-3 chord shapes. Perform these harmonized scales up-the-scale and down-the-scale at 40mm (metronome marking) with quarter notes. That means one beat or click equals one chord. The recommended *working speed* for seventh chords voiced 1-5-7-3 is 120mm in quarter notes. That's one chord per each beat or click of the metronome.

ASSIGNMENT THREE... "Song-of-the-Week." Select a song and learn to play it! Record all assignments.

By the way, don't forget to spend at least **one week** on this and every chapter. If you think you're different and can fool *Mother Nature,* think again. It takes time to develop motor skills and long-term memory. If you want to do it your way, maybe you should look for another profession or hobby. Check Radical Rules (level 6) for more details.

ASSIGNMENT FOUR... Review time! If you want to learn quickly and accurately, maintain contact with the outside world. ***Do not lock yourself in your room with your guitar!*** (Maybe you could join a band or give guitar harmony/theory/technique lessons?) If you haven't visited a local music instructor this month, it's time to set-up a private lesson. The instructor can be a friend, music teacher in your school, local musician, or choir director at your church. ***Outside "help" is required to reinforce all chapters found in this level!*** Plus, it's crucial to thoroughly understand everything found in the previous pages before moving-on to the next level. Don't "kid" yourself! Go and get some *outside* assistance!

THE BOTTOM LINE... Be able to identify the scale degrees (voicing) for all root position and voicing 1-5-7-3 chords of the harmonized C major using seventh chords.

IMPORTANT To increase speed and pursue speed-picking, it's mandatory to find a balance between *perfection* and *pushing-the-limit*. Always set your metronome 5, 10 or 20 bpm higher than your best mm for a few minutes, and then return to a *no-mistakes* metronome speed (i.e. constantly flip-flop between these two speeds). Sure, you'll make mistakes and play somewhat out-of-control. But, you need to "push" yourself without losing sight of perfection if you want to develop higher picking speeds. **You need to *push the envelope!***

CHAPTER 13

Diatonic Substitution

Let's assume you live on Main Street U.S.A. Your house (1), front yard (2), and best friend (3) are also on Main Street U.S.A. And, whenever at one of these places, you are only permitted to do one of three things. Your house (1) could be considered a place for R & R (rest and relaxation). You could hang-around at home all day and take it easy. The front yard (2) could be thought of as the decision-making or middle location. That is, should I go back to my house or should I walk over to my best friend's place for a short visit? Whenever visiting your best friend (3), you are somewhat tense because you owe him money… and still don't have it! So, you won't be staying too long. Chords operate or *function* the same way. As a matter of fact, chords within a harmonized diatonic scale are grouped into three categories or *chord families*, each having one of three ways in which to function.

One of the secret weapons for creating music is understanding the functions involved with harmonized diatonic scales. As songs are constructed, chords are positioned throughout the song with specific purposes. The purpose of a chord within the framework of a song is referred to as a chord's function, or *harmonic function*. Placing each chord of a harmonized diatonic scale into one of three groups according to purpose or function is textbook definition for the *chord family*. The Roman numeral system will be used when analyzing the member chords within each chord family. As a matter of fact, whenever analyzing a song, always think in terms of the Roman numeral system for chord identification. *Example 13-A* shows chord families, member chords, and their function.

Example 13-A:

Harmonic Function

Chord Family	Member Chords	Harmonic Function
Tonic	I, III, and VI	Stable, place of rest.
Subdominant	II and IV	Unstable, slight need to move.
Dominant	V and VII	Movement, strong need to move.

Let's say Main Street U.S.A. is equal to the entire harmonized C major scale. Located on this street is your house (tonic), your front yard (subdominant), the house of your friend (dominant), and the chords I, II, III, IV, V, VI, and VII. In your house are chords I, III, and VI. Your front yard contains chords II and IV. And, your friend's house has chords V and VII. So, when you need a stable situation within a song, stay in your house and play chord I (Cmaj), chord III (Em), and/or chord VI (Am). If you're undecided, not knowing whether to stay home or visit your friend, stand in your front yard and play chord II (Dm) and/or chord IV (Fmaj). To create tension and movement, go to your friend's house (don't forget… you still owe him money!) and play chord V (Gmaj) and/or chord VII (Bdim).

IMPORTANT The reason chords are placed into "families" is because two identical tones or notes are in each of the member chords. Note that only the "I chord" (pronounced: one chord) is compared to the "III chord" and "VI chord" (pronounced: three chord and six chord). The III chord and VI chord are not compared to each other because the I chord is the root chord and key center. The chords and tones for the harmonized C major scale chord families are shown in *example 13-B*.

Example 13-B:

Chord Family	Member Chord Numbers	Member Chord Names	Member Chords Tones or Notes	Common Tones or Notes
Tonic	III I VI	Em Cmaj Am	E-G-B C-E-G A-C-E	E-G C-E
Subdominant	II IV	Dm Fmaj	D-F-A F-A-C	F-A
Dominant	V VII	Gmaj Bdim	G-B-D B-D-F	B-D

Diatonic Substitution

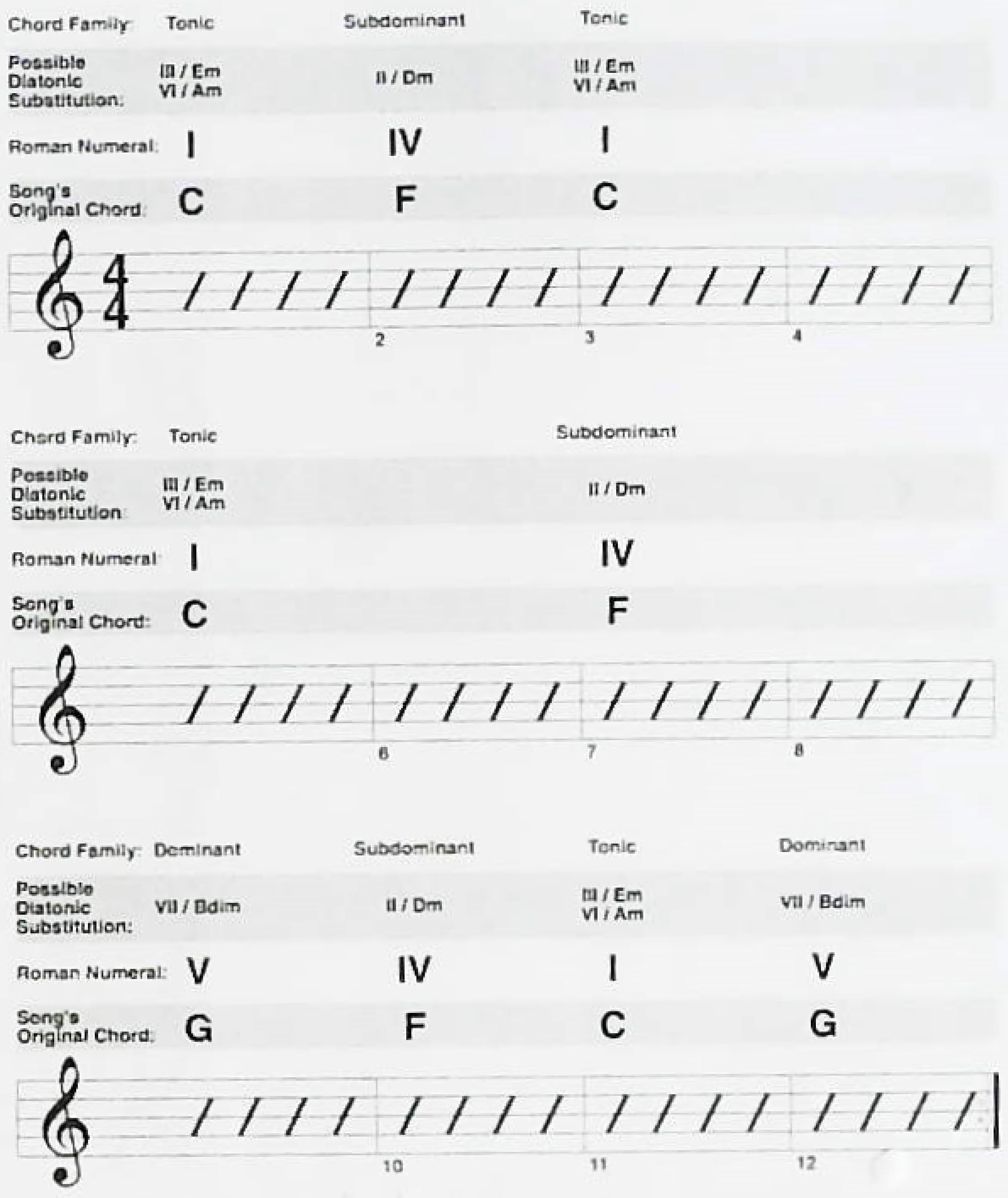
In the world of music, *diatonic substitution* is a music system which permits each member of a chord family to act as a substitute for any member of the same family. For example, if you see the III chord in a chord chart, you may replace this chord with either the I chord or VI chord because they each have the same function and are in the same *tonic family*. Likewise, when you see the IV chord, you have the possibility to substitute the II chord because each is in the *subdominant family*. Finally, if you see a V chord, slide in the VII chord because each is in the *dominant family*. Diatonic substitution is a fast and effective way to add some freshness to some rather ordinary sounding chord progressions, and could loosely be defined as a simple form of *re-harmonization*.

Note: A variety of "pro" soloing systems will be discussed in Radical Rules (level 8).

IMPORTANT Just remember, it's up to you to know which chords are I, II, III, IV, V, VI, and VII. Once you can identify the numbers, names, and functions (chord families) at the speed-of-light and in your sleep, you have then made an enormous leap towards being an incredible musician. If you don't know the numbers, names, and functions (chord families) of the chords in a chart, you will never be able to *play over changes*. By the way, playing over changes can be defined in many ways. But, for the most part, it is defined as soloing over changing key centers. It can also mean playing a different soloing system over each individual chord in a chart as opposed to just playing one minor pentatonic scale, for example, over an entire chart.

Example 13-C shows the 12 Bar Blues in the key of C major. The 12 Bar Blues is also regarded as a I-IV-V progression (pronounced: one-four-five progression) since it consists of chords I, IV, and V. By saying something like "this song is a I-IV-V progression", pros immediately identify the song's *functioning chords* along with the soloing possibilities. *Example 13-C* also shows chord families and possible diatonic substitution choices.

Example 13-C:



Homework/Chapter 13

ASSIGNMENT ONE… Use one of your original songs or chord charts from a previous chapter, label each functioning chord with Roman numeral and chord family, slip-in some diatonic substituted chords to add some freshness. But, don't overdo it! As with effects for your guitar, the affect of diatonic substitution can be very "cool" if applied judiciously.

Talking about guitar effects, if you can play, it's going to come out of your hands. Pedals and racks filled with effects will not help you to sound or play better. Combining various guitar effects actually eliminates the characteristic guitar sound and produce synth-type sounds. Then again, maybe you want to sound like a synth? Anyway, try to avoid becoming a ***gear junky*** and stick with a back-to-the-basics approach to guitar effects. (My personal all-time favorite, low-tech guitar effect is the wah-wah pedal, and is my only stage effect.)

ASSIGNMENT TWO… "Song-of-the-Week." You've got at least **one week**, so make it perfect. Do it!

ASSIGNMENT THREE… Record the above assignments, analyze your performances.

THE BOTTOM LINE… Be able to analyze and identify the Roman numerals and chord families in your favorite songs. This will prepare you for soloing and *playing over changes*.

CHAPTER 14

Indian Rhythms

Do you sometimes feel that you lack *natural rhythm?* Are you aware that systems exist for developing your rhythm or internal *clock?* But, it does takes a period of time to reach inside and wind your inner clock. To aid in developing "time" and rhythm, I've been able to acquire a very healthy list of methods used world-wide by many pros for the sole purpose of perfecting one's clock. Below are a few of the more logical approaches.

- ■ Keep "time" with everything you hear and see! Count 1-2-3-4 (aloud, or in your head if there's a possibility of disturbing others) and tap your foot, hand, or finger with music or metronome as you drive your car, take showers, ride the subway or bus to work, in the classroom with headphone or L.E.D. blinking light, etc..
- ■ At a very low volume level, let your body be subjected to the beat of a metronome while sleeping at night.
- ■ Always practice with a metronome without fail!
- ■ If metronomes are too crazy, go for a drum machine.
- ■ Indian Rhythms!

All of the above methods really do work. But, my favorite procedures are practicing everything with a metronome and *Indian Rhythms.*

Indian Rhythms

At first I thought Indian rhythms were a total waste of my valuable time, that I should be doing something more vital for my future because I was planning to be a proud-to-be-loud guitar warrior. ***WRONG! BIG MISTAKE!*** One of the biggest breakthroughs in my overall playing occurred while screwing-around one cloudy day in Vienna, Austria with Indian rhythms. I have to admit, it was only by coincidence and luck, but today I'm happy to have rediscovered Indian rhythms. The same outcome has happened with my *serious* students.

Indian rhythms were developed in the country of India; their purpose is to subdivide various units of rhythm. They are very similar to the act of patting your head and rubbing your stomach simultaneously. That is, you need to concentrate and react accordingly –in "time". Your instrument is not needed for Indian rhythms; a metronome is all that's required. The Indian rhythms below will be based on four beats per unit. Your job is as follows:

- ■ 1) Your foot is for quarter notes. The quarter note is used because it is the main pulse for rock, jazz, pop, country, etc.. So, tap your foot for each beat or click of the metronome.
- ■ 2) You must say the numbers aloud for each half beat. That is, count to the highest number for each individual number shown in the unit. For example, when you see the number "3," you must count 1-2-3 aloud. And, when you see the number "2," you must count 1-2 aloud.
- ■ 3) Clap your hands once each time you say the number "one."
- ■ 4) Repeat each example over and over until you begin to feel the pattern flowing comfortably. Perhaps 1 to 2 minutes per unit, not to exceed 10 minutes per day.
- ■ 5) ***Do not memorize the units!*** Memorization of Indian rhythms will not advance your rhythm and/or "time" abilities.

Example 14-A shows two Indian rhythm charts with appropriate units. The first is 2's and 3's consisting of three units. The second is 1's and 2's consisting of five units. That is, you can divide the 3's by 2 + 1 or 1 + 2. These units will prepare you to think in terms of subdividing the beat whenever analyzing a rhythm chart, song, or solo.

Example 14-A:

Indian Rhythm Charts

Indian Rhythms 2's and 3's
3-3-2
3-2-3
2-3-3

Indian Rhythms 1's and 2's
2-2-1-2-1
2-1-2-1-2
1-2-1-2-2
2-1-2-2-1
1-2-2-1-2

Example 14-B demonstrates how to count through Indian rhythm 2's and 3's with unit 3-3-2, unit 3-2-3, and unit 2-3-3. Unit 2-2-1-2-1 is also demonstrated, and is the only diagram showing Indian rhythms with 1's and 2's. By the way, the units always total *eight* in order to represent the *eight* half-beats per measure in 4/4 time.

Example 14-B:

Indian Rhythm Unit 3-3-2

Beat: (tap your foot for each beat)	Beat 1		Beat 2		Beat 3		Beat 4	
	foot		foot		foot		foot	
Say numbers aloud:	$\boxed{1}$	2	3	$\boxed{1}$	2	3	$\boxed{1}$	2
Clap your hands: (each time you say "1")	clap			clap			clap	
Units of measure: (two eighth notes per beat)	one	and	two	and	three	and	four	and
Unit 3-3-2:		3			3			2

Indian Rhythm Unit 3-2-3

Beat: (tap your foot for each beat)	Beat 1		Beat 2		Beat 3		Beat 4	
	foot		foot		foot		foot	
Say numbers aloud:	$\boxed{1}$	2	3	$\boxed{1}$	2	$\boxed{1}$	2	3
Clap your hands: (each time you say "1")	clap			clap		clap		
Units of measure: (two eighth notes per beat)	one	and	two	and	three	and	four	and
Unit 3-2-3:		3		2			3	

Example 14-B continued:

Indian Rhythm Unit 2-3-3

Beat: (tap your foot for each beat)	Beat 1		Beat 2		Beat 3		Beat 4	
	foot		foot		foot		foot	
Say numbers aloud:	$\boxed{1}$	2	$\boxed{1}$	2	3	$\boxed{1}$	2	3
Clap your hands: (each time you say "1")	clap		clap			clap		
Units of measure: (two eighth notes per beat)	one	and	two	and	three	and	four	and
Unit 2-3-3:	2			3			3	

Indian Rhythm Unit 2-2-1-2-1

Beat: (tap your foot for each beat)	Beat 1		Beat 2		Beat 3		Beat 4	
	foot		foot		foot		foot	
Say numbers aloud:	$\boxed{1}$	2	$\boxed{1}$	2	$\boxed{1}$	$\boxed{1}$	2	$\boxed{1}$
Clap your hands: (each time you say "1")	clap		clap		clap	clap		clap
Units of measure: (two eighth notes per beat)	one	and	two	and	three	and	four	and
Unit 2-2-1-2-1:	2		2		1		2	1

Homework/Chapter 14

ASSIGNMENT ONE… Be able to perform units with 2's and 3's in *example 14-B* at 40-60mm. That is, one click of your metronome is equal to one beat. Each example should be repeated over and over until you begin to feel the pattern flowing comfortably.

Note… It's not necessary to exceed 120mm in sixteenth notes for Indian rhythms since this is the "real" music world working speed.

ASSIGNMENT TWO… When the above is completed, attempt Indian rhythm charts with 1's and 2's.

ASSIGNMENT THREE… "Song-of-the-Week." Do it! Use it!

THE BOTTOM LINE… Indian rhythms are not a bunch of twinky stuffing! They will allow you to see, feel, hear, taste, and understand rhythms and "time." For example, when you need more speed for solos, Indian rhythms will help you to feel the *pulse* or *beat.* Indian rhythms will also aid in understanding how to break-down sixteenth notes in "time" and at high speed, thrash tempos (140-165mm). In addition, the Indian rhythm concept can be adapted to aid in music notation rhythm reading.

NOTE: As with each previous chapter, repeat this chapter for **one week** **before** continuing to the next chapter.

IMPORTANT As a musician/songwriter, ask yourself this question… is "time" slow and fast, short and long, or is it narrow and wide?

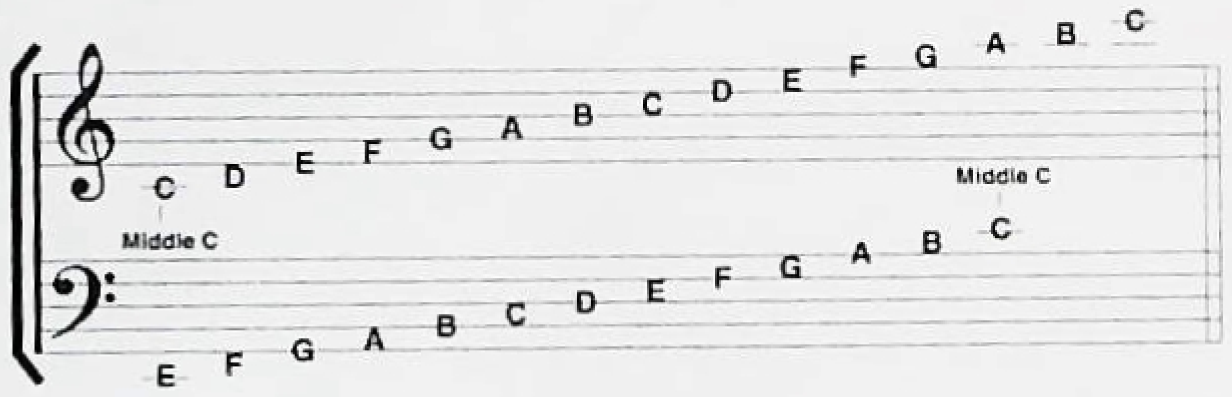
CHAPTER 15

Notes on the Guitar

The Grand Staff, presented in *example 15-A*, shows the actual pitch and standard range of the guitar. Don't forget, the majority of today's music has been *transposed* into the treble clef. From a convenience standpoint, this transposing concept is excellent. But, it's extremely confusing for just about anyone who encounters a piece of transposed music. So, where is the *actual pitched* middle C on a piece of transposed music? There really is no right or wrong way to approach transposed music. So, it's ultra-nice to have TAB included with a piece of music. For the most part, whenever running into transposed music, just fake-it and do your best. *Example 15-B* displays the industry standard for transposed guitar music notation. Just be aware that many versions of transposed music exist and vary from publisher to publisher.

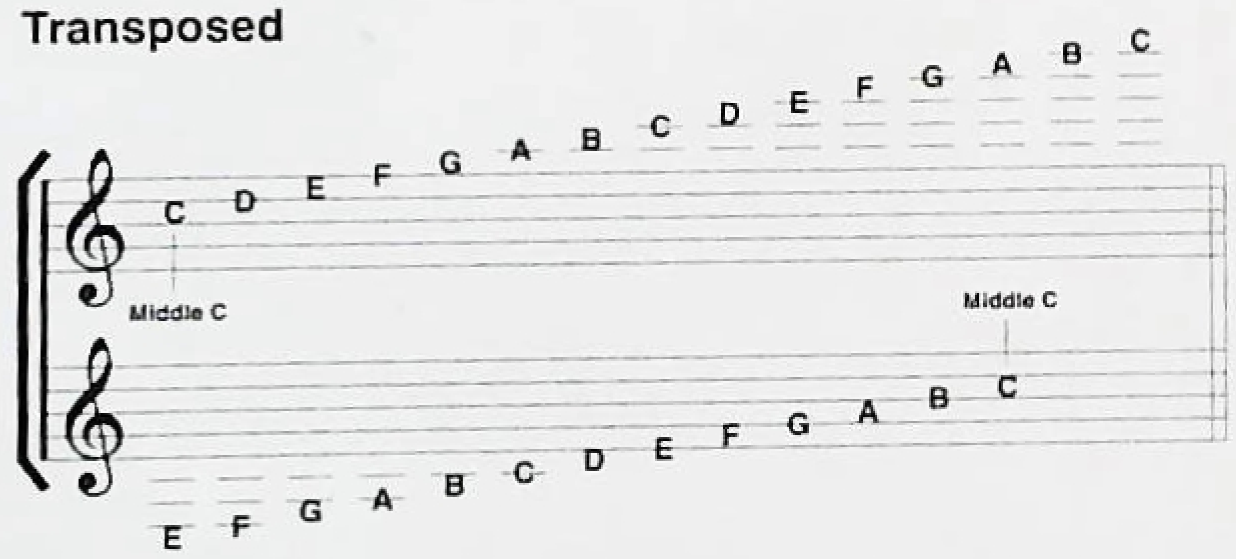
Example 15-A:

Actual Pitch



Example 15-B:

Transposed

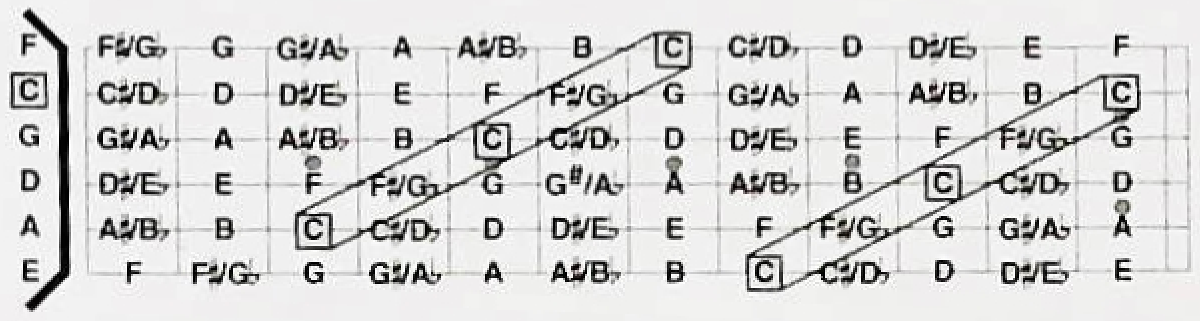


Fretboard Alphabet

The illustration in *example 15-C* shows all of the chromatic notes available on the first 12 frets of the guitar fretboard. Please note the pitch for the open 6th string (E string) is the same as the low E in the bass clef shown in *example 15-A*. This relationship only works when sheet music is presented in actual pitch. Don't forget, when sheet music is transposed, you need to fake-it! Also, be aware that many notes/tones have two alphabet letter names. Once again this adds fuel to the fire-of-confusion. So you'll need to deal with the redundancy of two different names for the same thing.

My personal solution for this situation is to recognize only ***flat*** family members, and forget about the sharps. This eliminates 50% of the total flat/sharp names and immediately focuses my attention on playing the note rather than debating whether the note is flat and/or sharp. Okay, music theory states certain things must be flat names or sharp names due to scale and/or chord construction (i.e. all major scales consist of seven alphabet letter names A thru G; accidentals are applied where needed.). But, I just want to play, have fun, and understand what I'm playing. Hey, I didn't write the rules in music. But, I am trying to lessen the load of redundancy.

Example 15-C:



F	F♯/G♭	G	G♯/A♭	A	A♯/B♭	B	C	C♯/D♭	D	D♯/E♭	E	F
C	C♯/D♭	D	D♯/E♭	E	F	F♯/G♭	G	G♯/A♭	A	A♯/B♭	B	C
G	G♯/A♭	A	A♯/B♭	B	C	C♯/D♭	D	D♯/E♭	E	F	F♯/G♭	G
D	D♯/E♭	E	F	F♯/G♭	G	G♯/A♭	A	A♯/B♭	B	C	C♯/D♭	D
A	A♯/B♭	B	C	C♯/D♭	D	D♯/E♭	E	F	F♯/G♭	G	G♯/A♭	A
E	F	F♯/G♭	G	G♯/A♭	A	A♯/B♭	B	C	C♯/D♭	D	D♯/E♭	E

IMPORTANT Be sure to check-out the location and pattern of how notes repeat octave by octave. It's simply a matter of following a diagonal 45 degree line. One of my personalized "roadmap" techniques is to memorize the notes of the 5th and 6th strings, and apply the diagonal 45 degree line across the fingerboard to locate roots, scale degree numbers, and alphabet letter names. Thanks to Radical Rules guitar tuning in perfect fourths (i.e. Zgrid), an incredible ***66%*** of previously required rote memorization is eliminated! This allows you the luxury of mastering the guitar ***300% faster (i.e. 3 times faster!)*** when compared to traditional methods. It's almost too good to be true!

Homework/Chapter 15

ASSIGNMENT ONE… Memorize the octave sequence of notes both up-the-scale and down-the-scale including sharps and flats. There are only twelve notes or alphabet names and positions to memorize… so it's no big deal! Since the guitar is considered a "C" instrument, always start and end the octave sequence on C before getting into other keys.

ASSIGNMENT TWO… Apply the *chromatic* notes to the guitar fretboard. Find all note locations *across* the fingerboard by applying the "roadmap" 45 degree diagonal line technique starting with roots on 5th and 6th strings.

ASSIGNMENT THREE… The "Song-of-the-Week." Transcribe the melody and/or solo section of a song and learn to play it. Transcribing will help you to analyze and write songs. You've got **one week!**

ASSIGNMENT FOUR… Record your rendition of "Song-of-the-Week." Analyze what's good and what's not so good.

THE BOTTOM LINE… After locating the root of any scale on the guitar, you should be able to locate 2-1/2 octaves *across* the fretboard without thinking. I would suggest the URMSP (Radical Rules level 1). Be able to number the scale degrees and name the notes with alphabet letters in your sleep.

CHAPTER 16

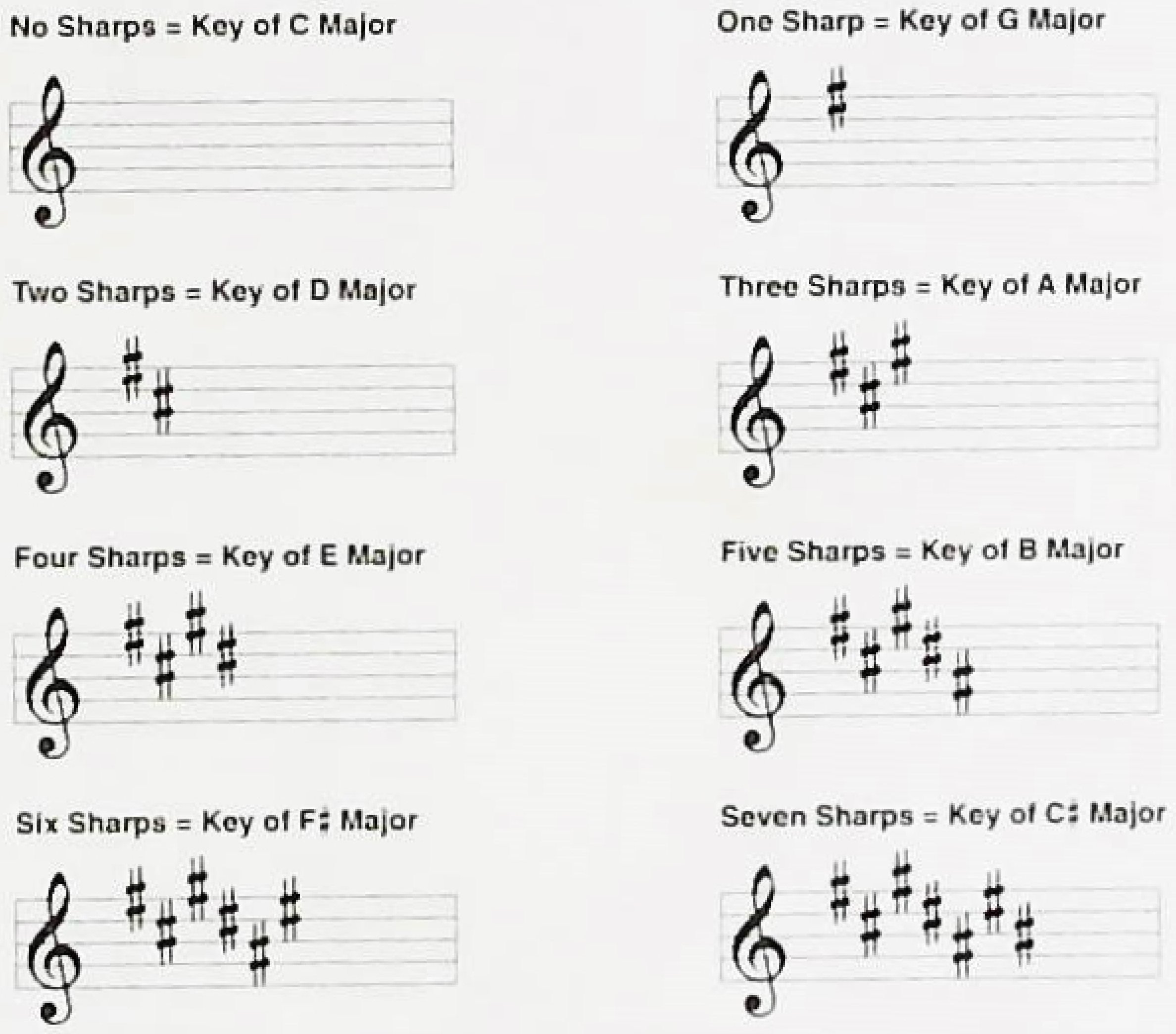
Key Signatures

The song is in F! Let's *jam* in D! If you're just beginning with the guitar, these expressions probably don't mean very much to you. But, to more experienced players, these phrases mean a great deal. In order to determine the key center of a piece of music, a pattern of sharps or flats is placed at the beginning of the staff. This pattern is called the *key signature*, and tells you the number of sharps or flats contained in that key. That is, the sharps or flats placed in the key signature actually pin-point the notes to be sharped or flatted for the song's duration, unless altered by natural signs, accidentals, and/or a new key signature.

Example 16-A shows all sharp key signatures for the treble clef. *Example 16-B* displays all flat key signatures for the treble clef. *Example 16-C* demonstrates all sharp key signatures in the bass clef. Finally, *example 16-D* shows all flat key signatures in the bass clef.

Example 16-A:

Sharp Keys



No Sharps = Key of C Major

One Sharp = Key of G Major

Two Sharps = Key of D Major

Three Sharps = Key of A Major

Four Sharps = Key of E Major

Five Sharps = Key of B Major

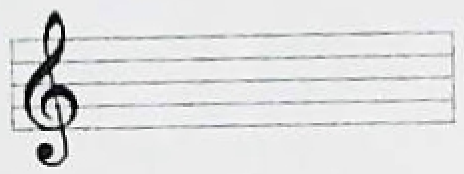
Six Sharps = Key of F♯ Major

Seven Sharps = Key of C♯ Major

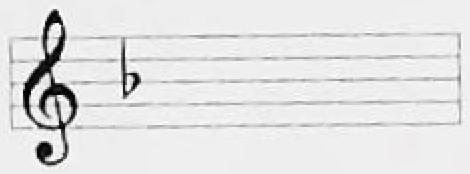
Example 16-B

Flat Keys

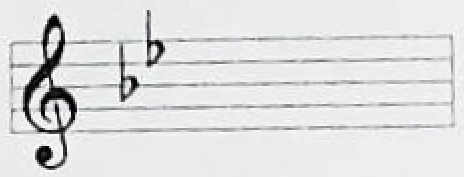
No Flats = Key of C Major



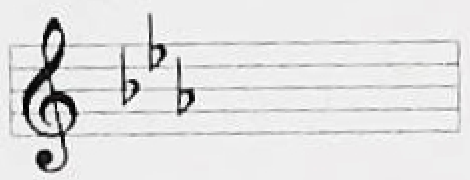
One Flat = Key of F Major



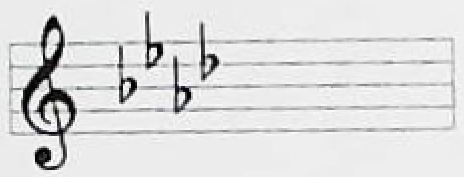
Two Flats = Key of B♭ Major



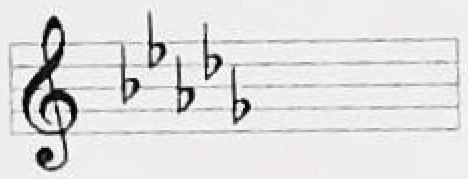
Three Flats = Key of E♭ Major



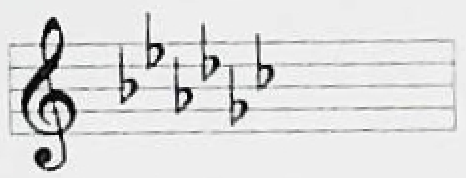
Four Flats = Key of A♭ Major



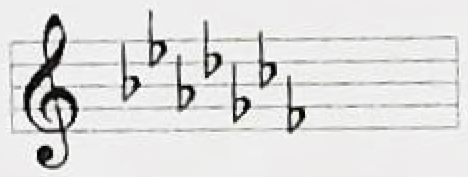
Five Flats = Key of D♭ Major



Six Flats = Key of G♭ Major



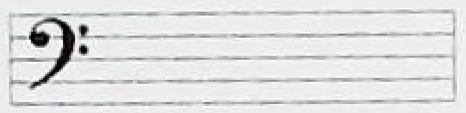
Seven Flats = Key of C♭ Major



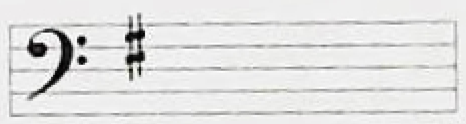
Example 16-C

Sharp Keys

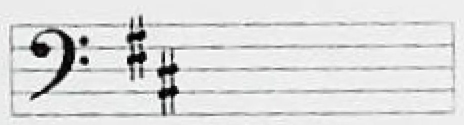
No Sharps = Key of C Major



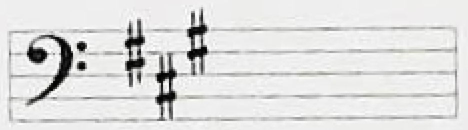
One Sharp = Key of G Major



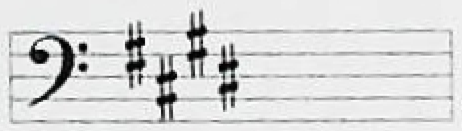
Two Sharps = Key of D Major



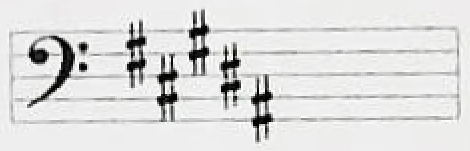
Three Sharps = Key of A Major



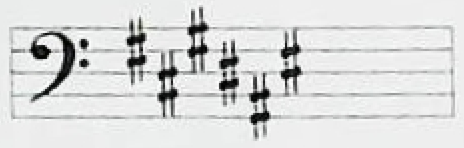
Four Sharps = Key of E Major



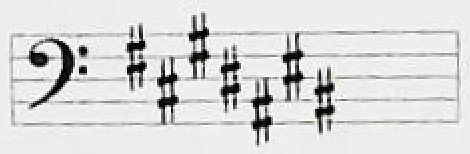
Five Sharps = Key of B Major



Six Sharps = Key of F♯ Major



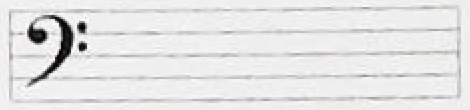
Seven Sharps = Key of C♯ Major



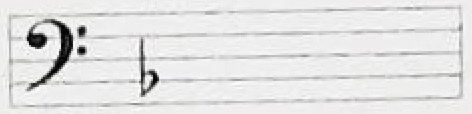
Example 16-D:

Flat Keys

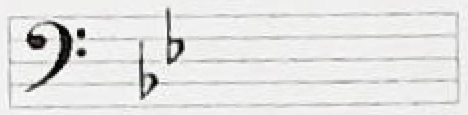
No Flats = Key of C Major



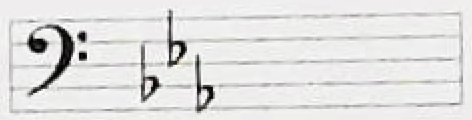
One Flat = Key of F Major



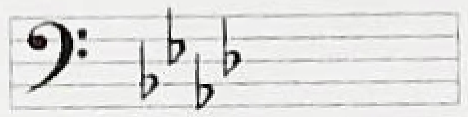
Two Flats = Key of B♭ Major



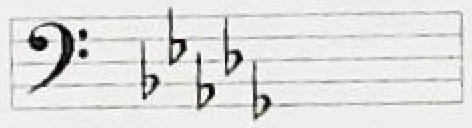
Three Flats = Key of E♭ Major



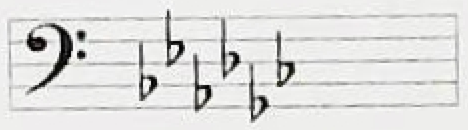
Four Flats = Key of A♭ Major



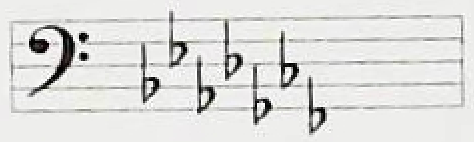
Five Flats = Key of D♭ Major



Six Flats = Key of G♭ Major



Seven Flats = Key of C♭ Major



Parallel and Relative

Each key signature is associated with two additional keys and/or key signatures. Traditional music theory states:

- For each major key there exists one *parallel* minor key and one *relative* minor key.
- For each minor key there exists one *parallel* major key and one *relative* major key.

The word "parallel" is defined as having the same tonic or root. The word "relative" is defined as having the same key signature. For example, the *parallel* minor of C major is C minor. Notice that both keys have "C" as the root but contain different notes. The *relative* minor of C major is A minor. C major and A minor have the exact same key signatures and contain the same notes, but the scale degrees are different. Please note that "A" is the 6th degree of C major. The 6th degree of any major key is normally considered the *natural minor* or *pure minor.*

The reverse is also true. The *parallel* major of C minor is C major. Again, both keys have "C" as their root, but contain different notes. The *relative* major of A minor is C major. Again, both A minor and C major have the same key signature and contain the same notes, but the scale degrees are different. Look over *example 16-E* to get a better picture of the relationships between parallel and relative keys. Only the keys of C and A are presented.

Example 16-E

Parallel and Relative Keys

Key	Relative Major	Relative Minor	Parallel Major	Parallel Minor
C Major	—	A minor	—	C minor
C Minor	E♭ major	—	C major	—
A Major	—	F♯ minor	—	A minor
A Minor	C major	—	A major	—

IMPORTANT Don't knock yourself out trying to understand these relationships because it will take some time and practice to sink-in. Just be aware that they exist, because one day you will need to understand these types of relationships when it comes time to solo.

Homework/Chapter 16

ASSIGNMENT ONE… Do not memorize traditional key signatures unless you have an immediate need, such as being able to speed-read through music. Otherwise, just be aware of their implications. The chapter (Circle of Fifths) will offer a unique and useable system for determining key signatures.

ASSIGNMENT TWO… Write on paper all major key signatures in both treble and bass clefs.

ASSIGNMENT THREE… Using the grand staff, write on paper the alphabet letter names including accidentals for each major scale, one octave per clef. For example, the alphabet letter names including accidentals and scale degrees for the key of G major are G-A-B-C-D-E-F♯ and 1-2-3-4-5-6-7. Include the scale degree numbers for each major scale and play these scale degrees on your guitar. I personally recommend and use the URMSP for all major scale line work.

ASSIGNMENT FOUR… "Song-of-the-Week." Do it for **one week!**

THE BOTTOM LINE… Over the entire fretboard, knowledge of scale degree numbers and positions for all major scales up-the-scale, down-the-scale, and in your sleep is essential if you intend to be an against-the-wall, scorching-hot musician/songwriter.

IMPORTANT Whenever writing key signatures, it is essential to place sharps and flats as shown on the staves in the previous examples.

CHAPTER

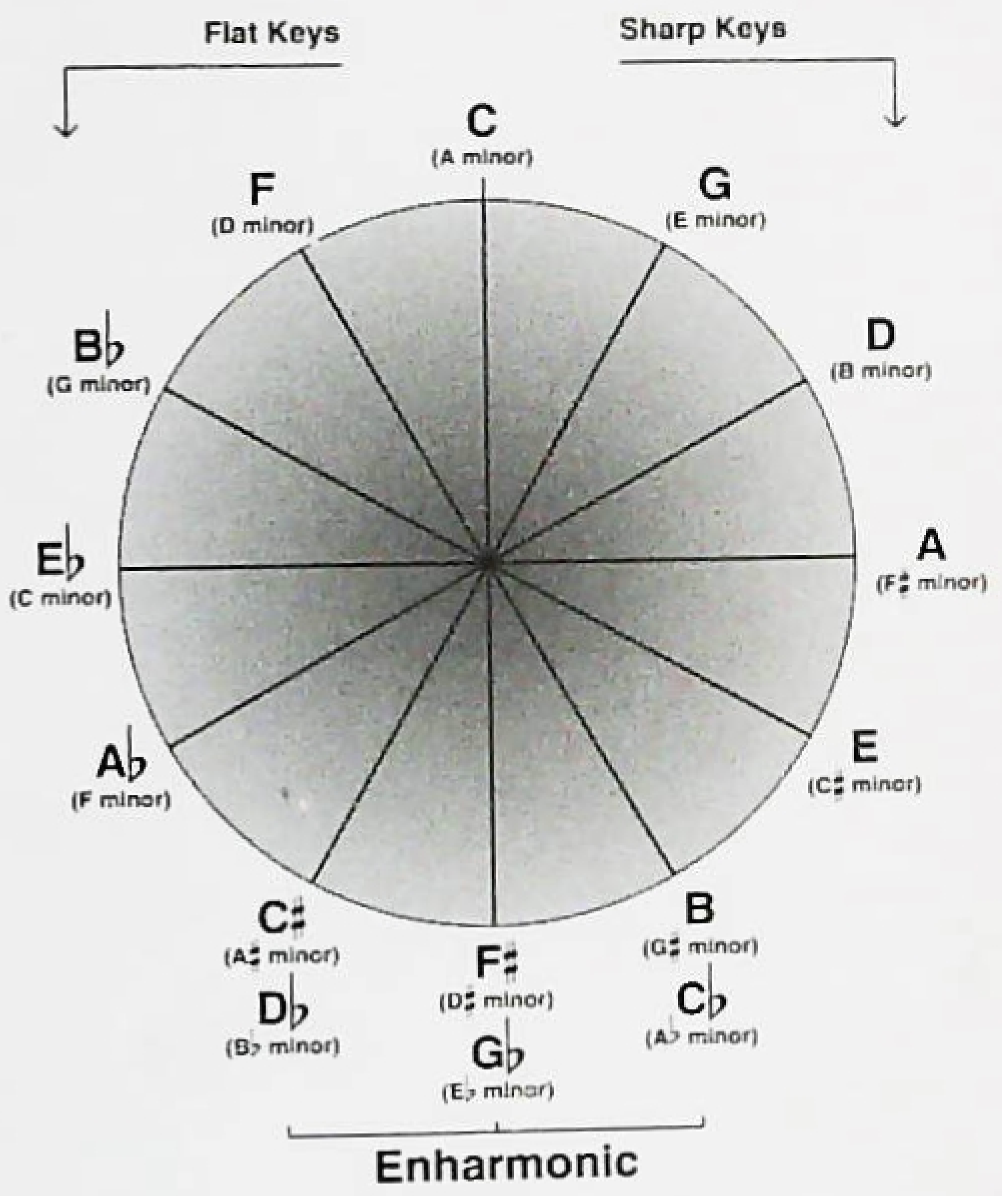
17

Circle of Fifths

The traditional approach to comprehending key signatures is to memorize the *Circle of Fifths*. Sometimes referred to as the *Cycle of Fourths*, the Circle of Fifths presents the twelve tones of the chromatic scale ascending in perfect fifths. This system shows each key as it increases by increments of one the number of sharps and flats. Sharp keys rotate and are presented clockwise. Flat keys rotate and are presented counter-clockwise. Keys having two names are musically defined as *enharmonic* and will be found at the bottom of the circle. The relative minor of each key is also shown under each major key in parenthesis. *Example 17-A* displays the Circle of Fifths.

Example 17-A:

Circle of Fifths



Note… As you travel clockwise (in the sharp direction), the increments or intervals are perfect fifths (Circles of Fifths). On the other hand, if you travel counter-clockwise (or in the flat direction), the increments or intervals are perfect fourths (Cycle of Fourths). Either way, you will always cycle through all twelve tones before returning to C.

Fat Cats…

When I was a student of music, it was difficult for me to memorize a stupid circle with major and minor keys running around the circumference. It seemed so *classic* and *uncool*. What I needed was a slick, modern system to conquer those *what notes are altered for this major scale?* situations. My friends were all drawing those crazy circles in search of misplaced sharps and flats, and use the circle for key center/scale analysis.

The answer to the circle problem was clear. By simply reorganizing the scale's seven alphabet letter names into a specific sequence, and by applying a system combination of *plus/minus direction* and *sharp/flat addition*, the answer was created. The answer: **F-C-G-D-A-E-B!**

To make things a little easier, light-hearted one sentence stories have been used to help people remember specific sequences, whether number or alphabet based. The popular sentence used in this situation is "**F**at **C**ats **G**o **D**own **A**lleys **E**ating **B**irds," or F-C-G-D-A-E-B. This sequence is very exciting because it provides the following information:

- ■ 1) It shows which keys are sharp keys.
- ■ 2) It shows which keys are flat keys.
- ■ 3) It shows how many sharps or flats are in the key.
- ■ 4) It shows which notes are flat or sharp.
- ■ 5) It shows the relative minor key. (Note: the relative minor procedure will not be discussed because it is similar to the above, and should be determined by you if required.)

Fat Cat Procedures

My personal favorite Fat Cats procedure is to write the sequence "F-C-G-D-A-E-B" on a piece of paper (or in my brain), and apply the plus/minus direction and sharp/flat addition system. This approach may seem complex, awkward, and strange at first glance, but it's a simple system… and it definitely works. Hey, all new concepts and systems seem strange at first glance. Just remember to begin the sequence from "C" for all of your work.

When F-C-G-D-A-E-B is written, immediately go to the "C" note. All notes to the left of C (the minus direction/flat direction) are considered *flat keys*. All notes to the right of C (the plus direction/sharp direction) are considered *sharp keys*. Also, only the use of flat accidentals are permitted in flat keys, and only the use of sharp accidentals are permitted in sharp keys. Traditional music theory states flats are not allowed to appear in sharp keys, and vice-a-versa. Below are the procedures for extracting the information from the Fat Cats Go Down Alleys Eating Birds / F-C-G-D-A-E-B sequence.

"Jump" & Add Sharps

All notes to the left of C (the minus direction) are flat keys. All notes to the right of C (the plus direction) are sharp keys. Whenever exceeding the sequence in one direction, "jump" to the beginning of the sequence and continue by reading in the same direction. For example, when you have a sharp key, you must begin with the letter or note C and read to the right or in the plus direction (i.e. C-G-D-A-E-B). Since the major scale requires seven notes, you need to count seven letters or notes. C thru B totals six notes in the sequence, so we need to add one more note in order to equal seven. To continue reading in the sharp direction (the plus direction), "jump" over to F and continue reading F-C-G-D-A-E-B etc.. Continue reading to the right (in the sharp direction/plus direction). Whenever this "jump" procedure is required, you must add accidentals. Sharps in the plus direction and flats in the minus direction must be added to all notes *following* the "jump." For example, after reading C-G-D-A-E-B in the sharp direction, "jump" to F, and continue reading to the right (in the sharp direction). Add a sharp to the note F because it *follows* the "jump." So, you must read C-G-D-A-E-B, "jump" to F and add the sharp. F becomes F♯. Since we needed one more note to complete our seven note scale, the note F (or F♯) becomes the seventh and final note to be read. The result: C-G-D-A-E-B-F♯.

"Jump" & Add Flats

When you have a flat key, begin with the letter or note C, and read to the left (in the minus direction). So you will read C-F and stop. Since the major scale requires seven notes, you will need to *read* a total of seven notes. C thru F totals two notes, so five more notes are required to total seven. So continue reading in the flat direction (minus direction), "jump" over to B and read B-E-A-D-G-C-F etc.. You must continue to read left (in the flat direction/minus direction). Don't forget, whenever this "jump" procedure is required, you must add accidentals. Sharps (in the plus direction) and flats (in the minus direction) must be added to all notes *following* the "jump." So, for this example, after reading C-F in the flat direction, "jump" to B and continue reading left. Don't forget to add flats to notes B-E-A-D-G because they *follow* the "jump." Read C-F-"jump"-B♭-E♭-A♭-D♭-G♭. Since only five additional notes are required to complete our seven note scale after the "jump," the notes B-E-A-D-G (or B♭-E♭-A♭-D♭-G♭) are the final notes to be read. The result… C-F-B♭-E♭-A♭-D♭-G♭.

How Many?

The numbered position of the note in relationship to C determines the *quantity* of accidentals. The note G is the same as saying the key of G major, and will be our example. First step is to determine whether G is a sharp key or flat key. Answer: G is a sharp key because, if you read to the right from C (in the sharp direction), all seven notes are sharp keys. If you were to read to the left of C (in the flat direction), you would be required to "jump" and flat the remaining notes. G would then become G♭. We are looking for G, not G♭. So, G is a sharp key.

Next step is to determine the numbered location of G in relationship to C. Answer: G is number one from C. This numbered location tells the total number of sharps in the key of G major. That is, the key of G major contains one sharp. Continuing through the Fat Cats sequence, D is number two from C and contains two sharps. A is number three and has three sharps. E is four and contains four sharps. B is five and has five sharps. "Jump." F♯ is six and contains six sharps. Finally, C♯ is number seven and has seven sharps. That is, all seven notes in the C♯ major scale are sharped.

This same concept applies to flat keys. Reading to the left (in the minus/flat direction) F is number one from C. This numbered location tells the total number of flats in the key of F major. That is, the key of F major contains one flat. Continuing through the Fat Cats sequence, you must "jump" to B♭. B♭ is number two from C and contains two flats. E♭ is number three and has three flats. A♭ is four and has four flats. D♭ is five and has five flats. G♭ is six and contains six flats. Finally, C♭ is number seven and has seven flats. That is, all seven notes in the C♭ major scale are flatted.

Sharp or Flat?

This is easy! As shown above, you only need to read the Fat Cats sequence in the proper direction, and the numbered position is equal to the total number of notes to include accidentals. Next, as you read across the sequence, each note is to receive an accidental. If you have a sharp key, you must read the Fat Cats sequence to the right (in the sharp direction). If you have a flat key, you must read the Fat Cats sequence to the left (in the flat direction). For example, G is a sharp key and is number "one" from C. The number "one" indicates that G contains one sharp. To determine which note is sharp, simply return to the Fat Cats sequence and read to the right (in the plus direction/sharp direction) from F to B. That is, read F-C-G-D-A-E-B. The note F is to be sharped since it is also the number "one." So, the G major scale reads G-A-B-C-D-E-F♯. The next note in the sequence is number "two" D. D is a sharp key and contains two sharps… F♯ and C♯. F is number "one" and C is number "two." So, the D major scale reads D-E-F♯-G-A-B-C♯. The next note is number "three" A, is a sharp key and contains three sharps… F♯, C♯, and G♯. So, the A major scale reads A-B-C♯-D-E-F♯-G♯. And so on.

Flat keys work the same way, only you must read to the left. For example, F is a flat key and is number "one" from C. The number "one" indicates that F contains one flat. To determine which note is flat, return to the Fat Cats sequence and read to the left (in the minus direction/flat direction) from B to F. That is, you must simply read F-C-G-D-A-E-B backwards. The note B is to be flatted since it is also number "one." So, the F major scale reads F-G-A-B♭-C-D-E. The next example is number "two" B (a flat is added to the letter name B because of the "jump"). B is a flat key and contains two flats. The two flatted notes are B and E; B is number "one" and E is number "two." So, the B♭ major scale reads B♭-C-D-E♭-F-G-A. Number "three" is A (a flat is added to the letter name A because of the "jump"). It is a flat key and contains three flats which are B, E, and A. So, the A♭ major scale reads A♭-B♭-C-D-E♭-F-G. And so on.

IMPORTANT For major scale construction, your first step should always be to write on paper the first seven letters of the alphabet, and *then* add the necessary accidentals.

Homework/Chapter 17

ASSIGNMENT ONE… Memorize the sentence and/or sequence Fat Cats Go Down Alleys Eating Birds / F-C-G-D-A-E-B.

ASSIGNMENT TWO… Draw the Circle of Fifths. Be sure to include enharmonics and relative minor keys. Don't forget, the root of the relative minor is also the 6th degree of the major scale. The relative minor can also be seen as three frets below the root of it's relative major key.

ASSIGNMENT THREE… Using alphabet letter names, accidentals, and applying the Fat Cats sequence, write on paper the seven note scales for all twelve major keys.

ASSIGNMENT FOUR… "Song-of-the-Week." No excuses, do it for **one week!**

THE BOTTOM LINE… Burn-in the sentence and/or sequence Fat Cats Go Down Alleys Eating Birds, and understand its concepts.

CHAPTER 18

Reading Music

If you would like to join forces with some of the more elite players such as Dann Huff, Jennifer Batten, and Steve Vai, the ability to read music is a mandatory prerequisite. Look at it from another angle… the more abilities you acquire or possess, the better your chances are to find employment. If you can read music, then you have just widened the gap between yourself and the competition. It's tough trying to make a living in today's *normal* world, and it's even tougher in the music world. Anything you can do to provide an edge over the next guy should be pursued. Learning to read music is not always fun, but it does have its rewards. Music reading abilities allow you to write songs, transpose music, arrange for other musical instruments, teach music, speak music intelligently, analyze solos, perform music with a band, improves your "time" and sense of rhythm, etc., etc., etc.. Plus, you can earn a lot of money doing all of these things and more, just by reading music. Don't forget… ***knowledge means power!***

Rhythm Charts

In order to read music, you must develop abilities to identify rhythmic notation values (Radical Rules level 2), and identify tones and notes with music notation (Radical Rules level 1) and your instrument (Radical Rules level 4). Your goal for unprepared music reading (i.e. having the ability to read never before seen music) should be approximately 60mm with eighth notes. Faster speeds are simply not necessary! In time you'll develop the ability to scan and memorize a piece of music. Of course, this scanned music will be placed in the short-term memory area of the brain. But, you will remember the tune long enough to complete its performance. In fact, 80% of everything a musician does involves memorization. There's even a method in the entertainment business for learning pages of dialog in daily television shows called "Quick-Study." The following steps should prepare you for music reading combat:

■ STEP ONE… To begin developing your music reading abilities, grab some *rhythm studies* at your local music shop or bookstore. Primarily intended for percussionists, these studies are single-pitched notation values placed on a staff. Dots, beams, ties, rests, and other note values can all be found within rhythm studies. Be sure to begin with easier rhythm studies if music reading is new to you. Proceed in the same fashion as if you were working with Indian rhythms. That is, without your instrument, use your hands and clap through the rhythms and charts. This will develop your sight recognition of notation values. By the way, there exists approximately 384 possible rhythms in the world of music, not including strange and bizarre rhythms. So, don't worry too much about memorizing rhythm study charts. Don't forget… ***musicians do it with metronomes!***

■ STEP TWO… Next step is to identify the notes placed on the staff. So, grab some very simple music consisting of whole and half notes, and proceed at a very slow tempo. Say those alphabet note names aloud as you proceed through the music to guarantee established note recognition. Do not clap, do not use a metronome, and do not use your instrument. You can also find beginner level music for reading purposes in your local music shop or bookstore.

■ STEP THREE… Apply steps one and two to your instrument. The traditional approach is to keep your eyes glued to the music, metronome turned "on," and use Traditional Pattern #2 (Radical Rules level 1) for your fingering position. Your hand should never stray out of position.

Reading by Numbers

As a Radical Rules music reading strategy alternative, I see relationships between notes as intervals. Rather than seeing traditional alphabet note names placed on a staff, I see the interval between each and every *pair* of notes. For example, there is an interval between notes one and two, then there is an interval between notes two and three, and so on throughout an entire piece of music. I only need to determine the key center, apply my favorite major scale pattern, and go for it! It's just like reading-by-numbers, and is a really "cool" alternative to traditional music sight-reading.

Homework/Chapter 18

ASSIGNMENT ONE… Take a trip to your local music shop or bookstore and pick-up a rhythm study book. Then, find a nice quiet spot to attempt STEP ONE. You'll probably need some help from a local music instructor, music teacher at your school, or friend to assist you in understanding and counting through the rhythm study examples. Asking for advice at this point will definitely speed your rhythm and music reading abilities.

ASSIGNMENT TWO… Your "Song-of-the-Week" should come from a piece of written music. Perhaps you found one of your favorite songs in a monthly guitar magazine? Put the song together with only the use of sheet music. Don't memorize the sequence of notes on your guitar, and playing by "ear" is not allowed. These only defeat the purpose of sight-reading. Hey, don't forget to record your performance!

Spend at least **one week** on this and every chapter. If you think you're different and can fool *Mother Nature,* think again. It takes time and effort to develop motor skills and long-term memory. If you want to do it your way, maybe you should look for another profession or hobby. Check Radical Rules (level 6) for more details.

ASSIGNMENT THREE… It's review time! If you want to learn quickly, it's important to maintain contact with the outside world. ***Don't lock yourself in your room with your guitar.*** (Maybe you could give guitar harmony/theory/technique lessons?) If you have not visited a local music instructor this month, it's time to set-up a private lesson. ***Outside "help" is required to reinforce all chapters found in this level!*** It's crucial to thoroughly understand everything found in the previous pages **before** moving-on to the next level.

THE BOTTOM LINE… Develop the ability to sight-read music at 60mm using eighth notes. Faster sight-reading speeds are just not necessary because "pro" musicians typically scan and memorize written music.

Note… Dann Huff is a guitarist's guitarist. With impeccable, high-profile studio credits, he possesses a rare talent for articulation at warp speed. His solos are technically amazing and always going somewhere, making a statement. You may not be a *rocker,* but it's important to check-out the competition. You can catch Dann doing all of the dazzling, laser-hot guitar work with his group ***"GIANT."*** It's a good idea to learn some of his tunes for "Song-of-the-Week."

CHAPTER 19

Pentatonics

Pentatonics seem to prevail in most forms of western music. But, they are rarely understood. The term *pentatonic* is a word consisting of two individual parts. "Penta" originally comes from the Greek word *pente,* and is defined as the number five. "Tonic" is defined as loyalty to the root, and has been discussed in previous chapters. When you combine the two terms (penta + tonic), a five-note scale related to the root (tonic) is created. In other words, grab any scale and subtract predetermined notes until only five remain. The pentatonic scale is really just a simplified version of any diatonic scale.

Various forms of pentatonic scales exist, but three specific types "rule" in today's music. The first and foremost is the *major pentatonic scale.* As its name suggests, it is a major scale consisting of only five notes. The fourth tone (the *subdominant*) and the seventh tone (the *leading tone*) are eliminated from the standard seven-note major scale. These two notes are commonly referred to as the *tritone,* produce a kind of "movement" within a major scale, and are never "at rest." That is, whenever you play the fourth or seventh degrees of the major scale, the ear wants to hear it followed by another note. By eliminating the fourth and seventh degrees (the tritone), a scale comprised of notes with the ability to function as temporary/long duration "rest" and stop points is created. That is, the ear is happy to stop and/or "rest" on any note of the major scale other than the fourth and seventh scale degrees.

Pentatonics entitle the musician to smooth-flowing groups of notes which allow for larger than normal *intervallic* leaps (when compared directly to seven and eight note scales). Playing pentatonics up and down the scale, or in random patterns, gives the impression of *virtuosity.* It's definitely a great sound, and was dominant during the late sixties and early seventies. But, don't feel that pentatonics are "old" or "past history." Joe Diorio once told me that you can get more from five notes than seven… plus, it's faster! He also said: *"It can take more than a lifetime to work with scales and pentatonics, so only take what you need!"* Give major pentatonics a shot! They can be plugged-in and applied in the same fashion as you would approach the seven-note major scale, but with only five notes. Effective musical *phrasing* can be created quickly, and pentatonics sound totally bitchin'. The major pentatonic scale degree formula is as follows:

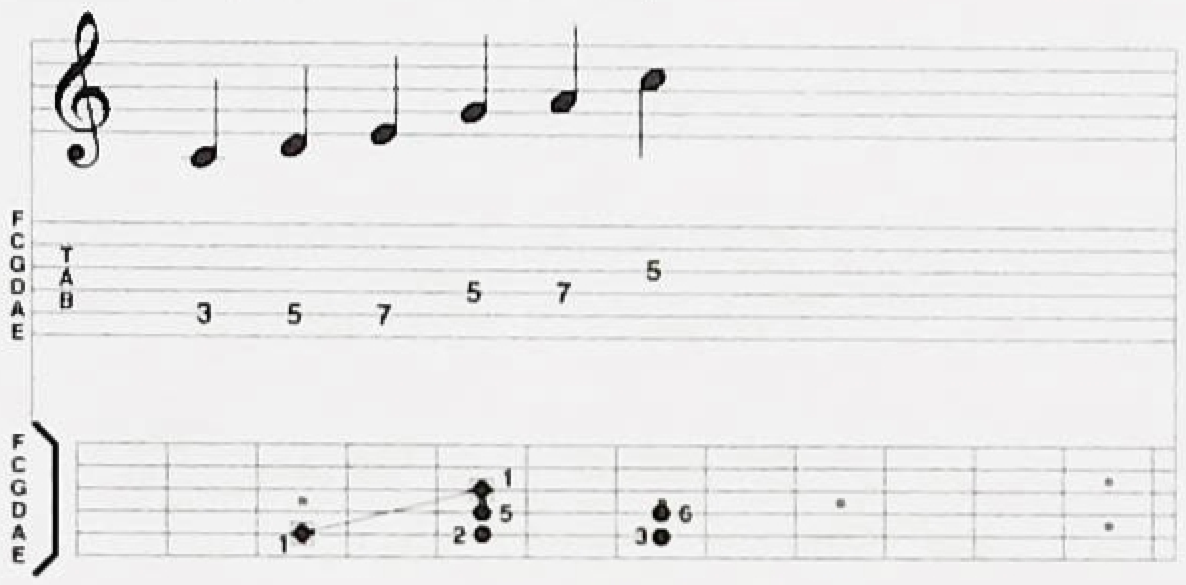
IMPORTANT Major pentatonic formula: 1-2-3-5-6.

Note… The notes of a ***major*** pentatonic scale are the same, exact notes as its relative ***minor*** pentatonic scale. The intervals and scale degrees are different, but the notes are the same! Look over the next chapter titled "Minor Pentatonics" for additional info.

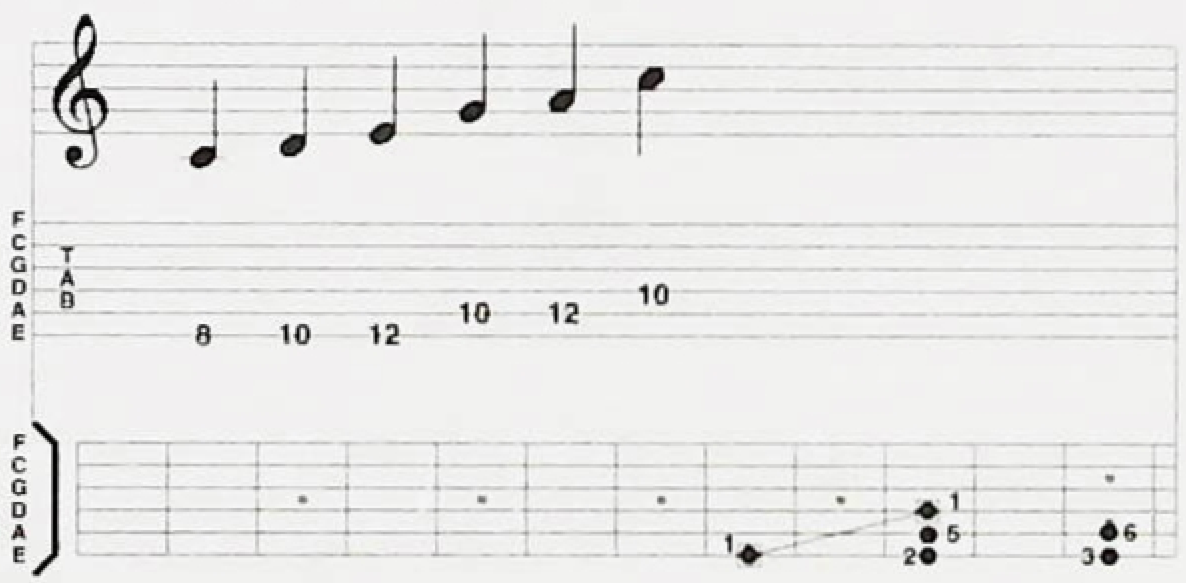
Example 19-A shows the C major pentatonic scale in notation, TAB, and fingerboard diagrams. A few patterns are demonstrated. Be aware that various seven-note major scale patterns have been used to construct the five-note major pentatonic scales. So, it's up to you to determine the best pattern (or pattern combination) for recognizing scale degrees quickly and accurately. Also, determine the best pattern (or pattern combination) for your hands and fingers. Always strive to locate your comfort-zone! The major pentatonic scale can be played over its major key center and over its relative minor key center.

Example 19-A:

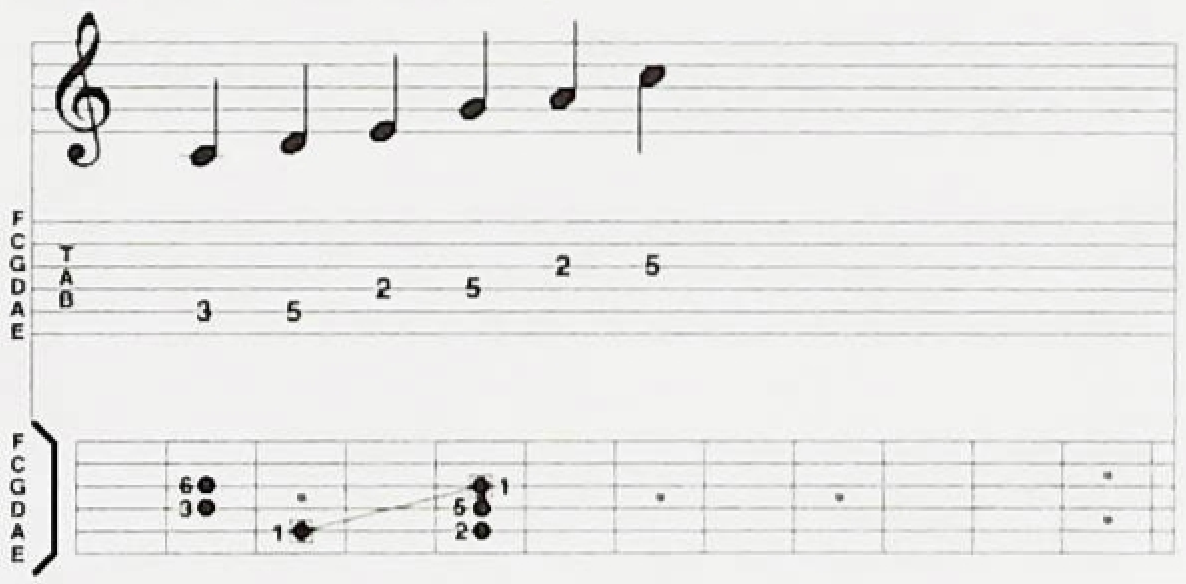
C Major Pentatonic
URMSP or Ionian 3nps Major Scale Pattern / root on A string



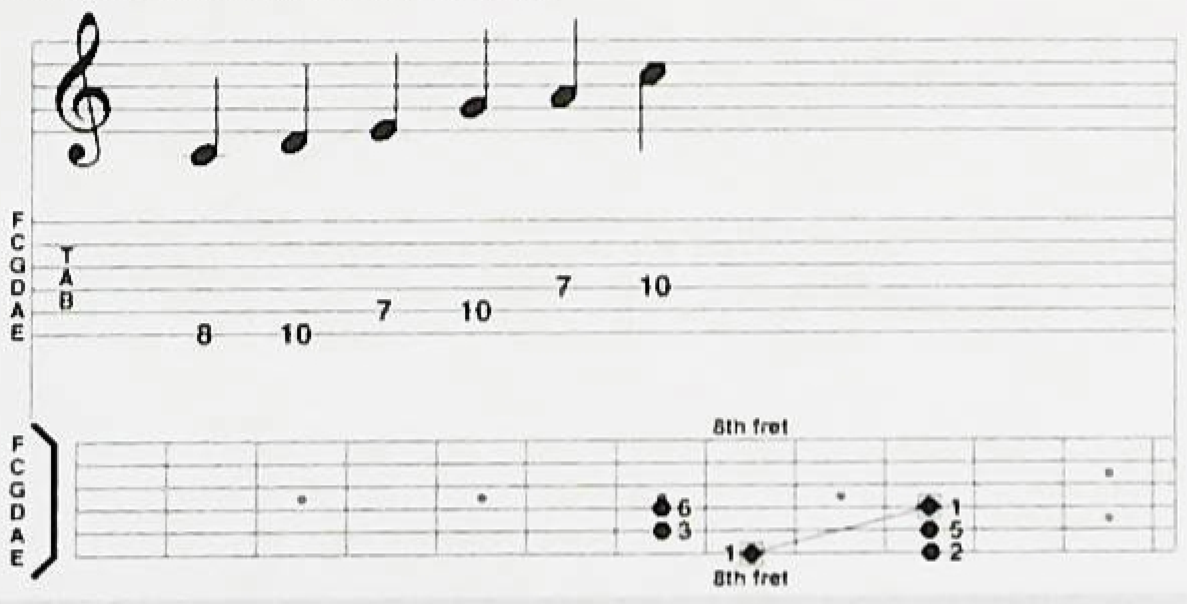
C Major Pentatonic
URMSP or Ionian 3nps Major Scale Pattern / root on E string



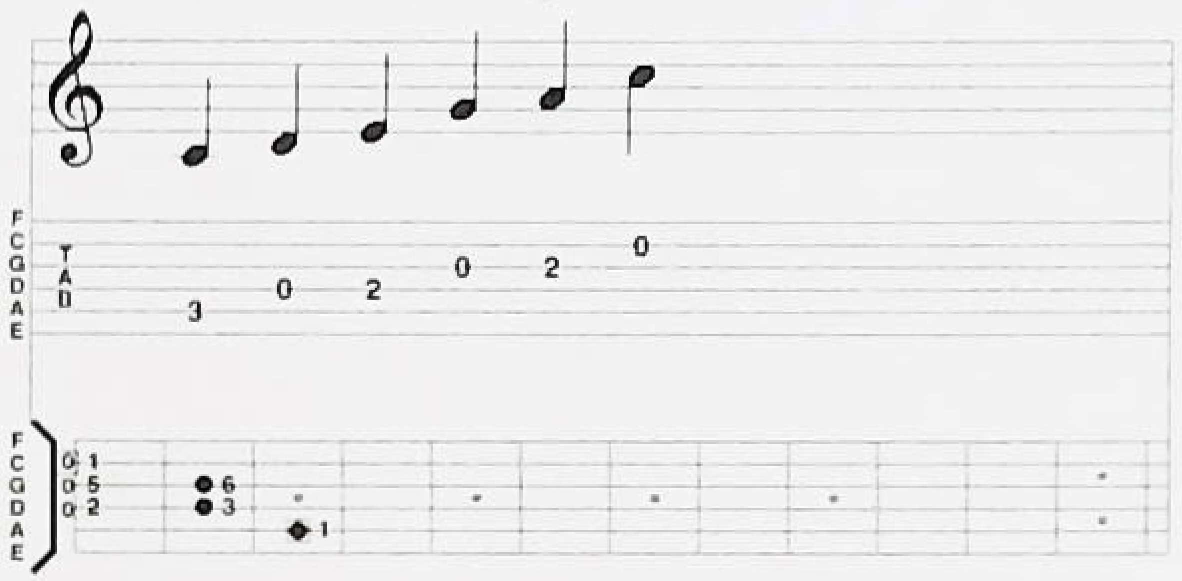
C Major Pentatonic
Traditional Major Scale Pattern #2 / root on A string



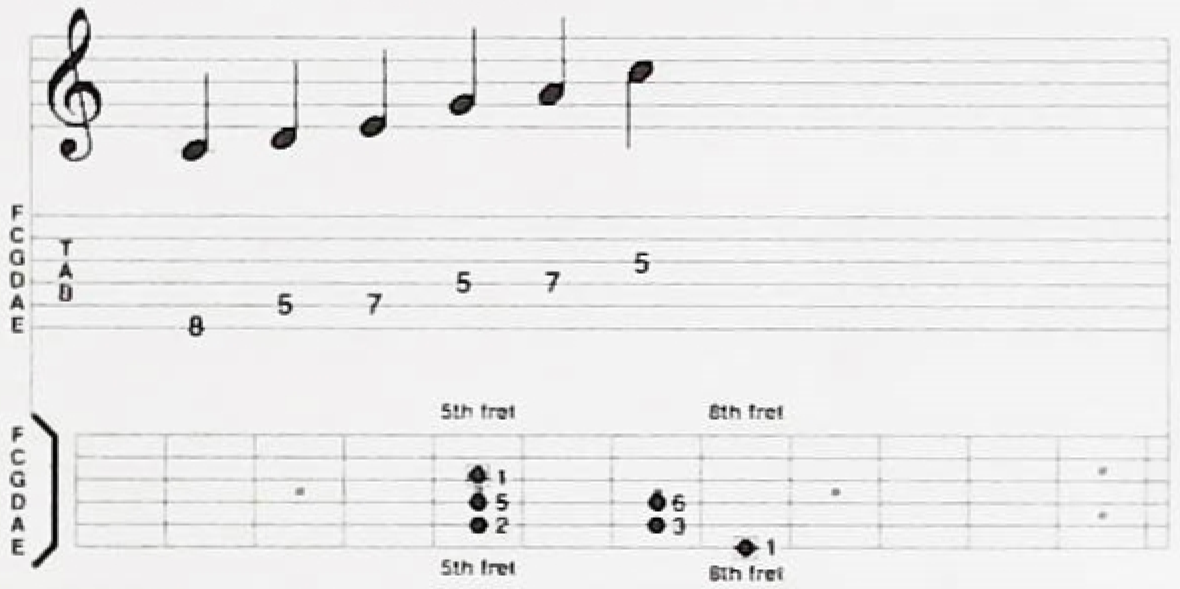
C Major Pentatonic
Traditional Major Scale Pattern #4 / root on E string



C Major Pentatonic
Traditional Major Scale Pattern #1 / root on A string



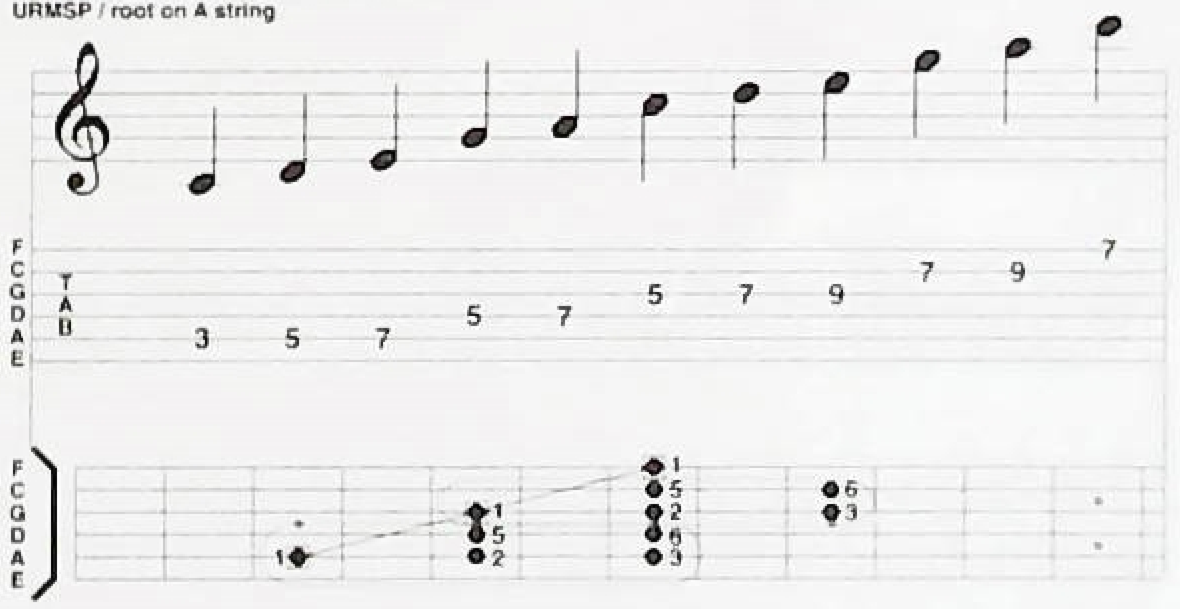
C Major Pentatonic
Traditional Major Scale Pattern #3 / root on E string



Example 19-B shows my personal favorite major pentatonic pattern over two octaves. Again, it's the C major pentatonic, and is derived from the URMSP. This pattern allows me to *burn* and locate scale degrees at Warp 9, because I always ***repeat*** the same major pentatonic pattern. ***Repetition*** is the method required by one's body to *burn* information and technique (motor skills) into memory cells which are located in the brain, muscles and fingertips. ***Repetition*** is also one of the major ingredients for becoming an above-average musician. Notice how the root of the pentatonic pattern always follows a 45 degree diagonal line ***across*** the fingerboard and repeats. Playing guitar is easy! It only takes *time, perseverance,* and ***repetition.***

Example 19-B

C Major Pentatonic
URMSP / root on A string



Minor Pentatonics

This is our first look into the world of minor keys. Up to this point, we have concentrated all efforts toward major key centers. But, soon you will see that whatever is said about major keys also pertains to minor keys. You will not need to learn any new procedures... only some new formulas. Plus, you'll soon discover that many of your favorite songs are actually in minor keys.

Minor keys can loosely be described as any scale containing a ♭3 (pronounced: "flat three" or "flat third"). The ♭3 seems to be the distinguishing factor between major and minor keys. In music terminology, the third degree interval determines whether a key center is major or minor. That is, a major key center contains the major third (3) interval, a minor key center contains the minor third interval (♭3).

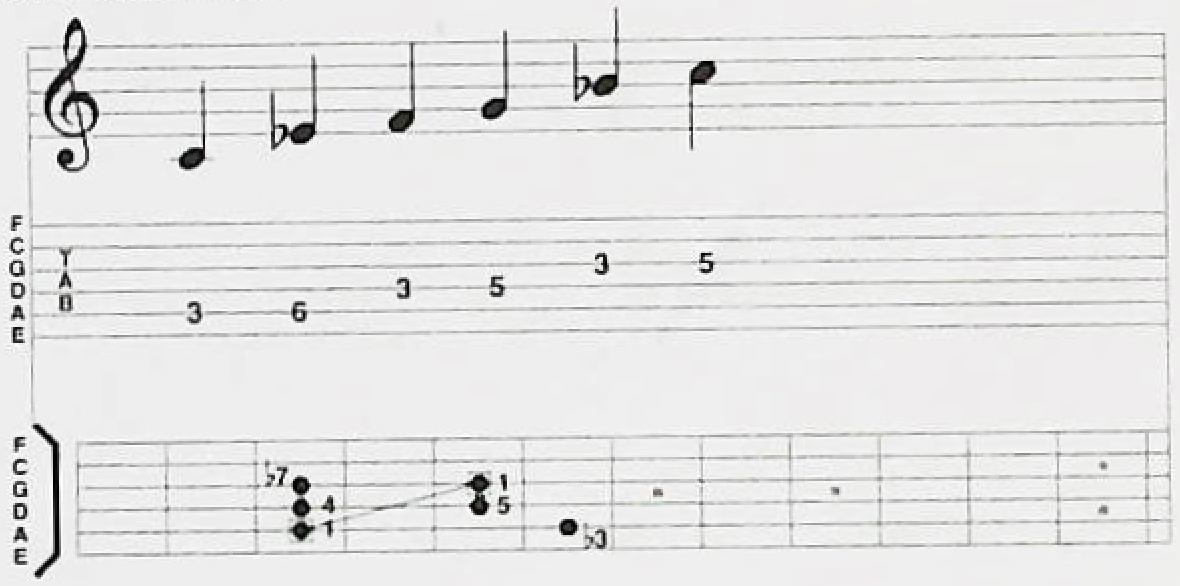
IMPORTANT Minor pentatonic formula: 1-♭3-4-5-♭7.

The notes of the ***minor*** pentatonic scale are exactly the same as those found in its relative ***major*** pentatonic scale. The intervals and scale degrees are different, but the notes are the same! As seen in previous chapters covering major key centers, the relationships between relative and parallel keys remain intact even when discussing minor keys.

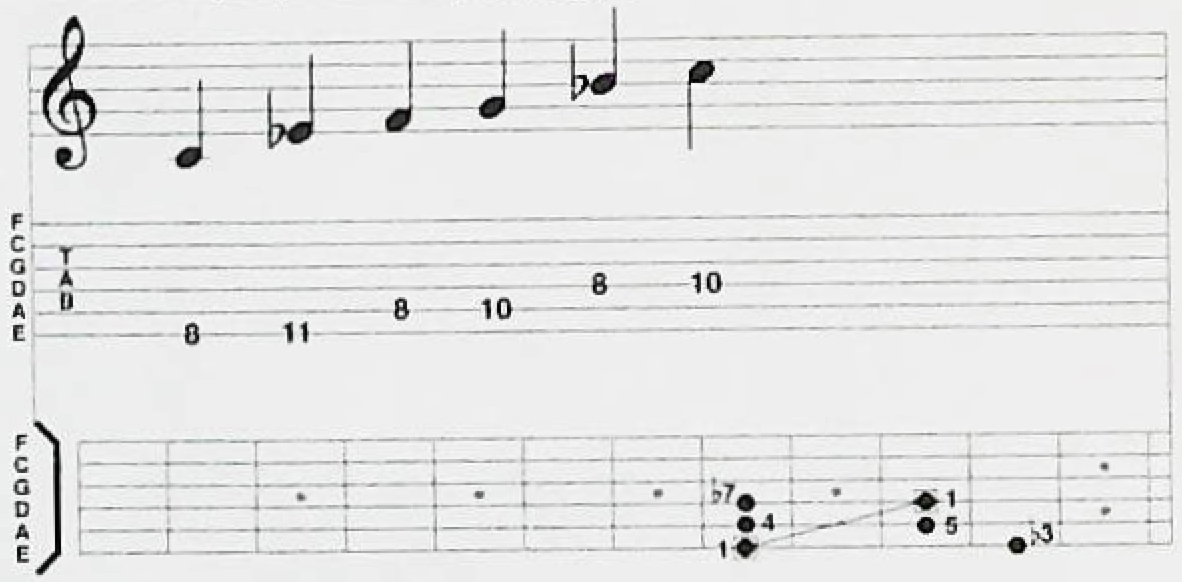
Example 19-C demonstrates the C minor pentatonic scale. It shows various major scale patterns altered according to the minor pentatonic formula. ***Always remember to begin with the major scale, then adjust or alter this same major scale according to the required formula.*** The minor pentatonic can be played over its minor key center and/or over its relative major key center.

Example 19-C:

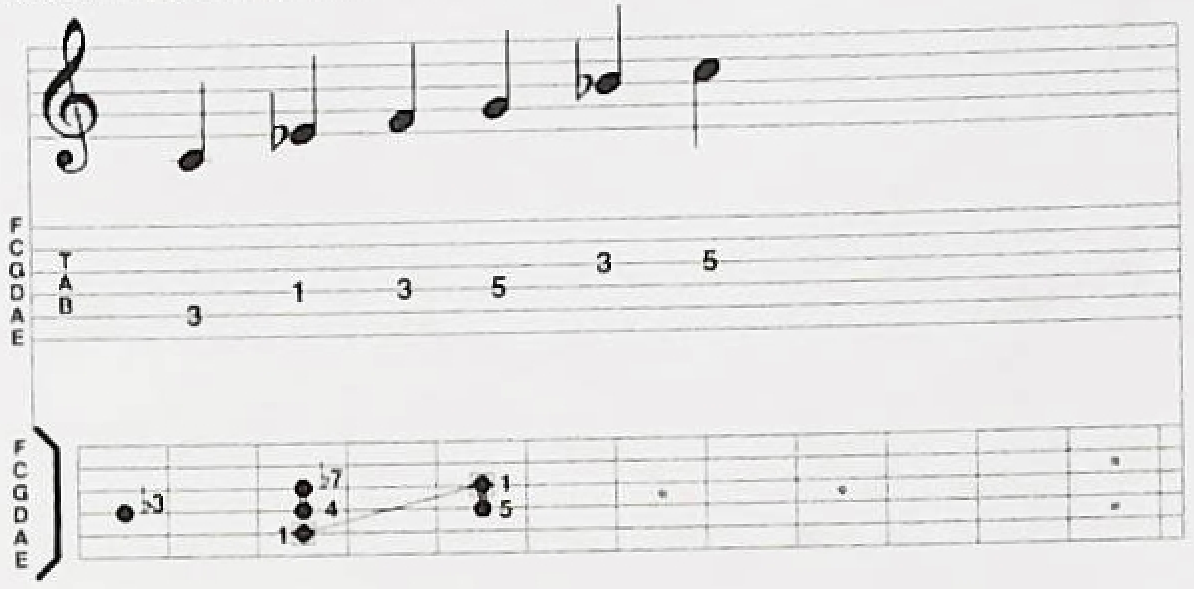
C Minor Pentatonic
URMSP or Ionian 3nps Major Scale Pattern / root on A string



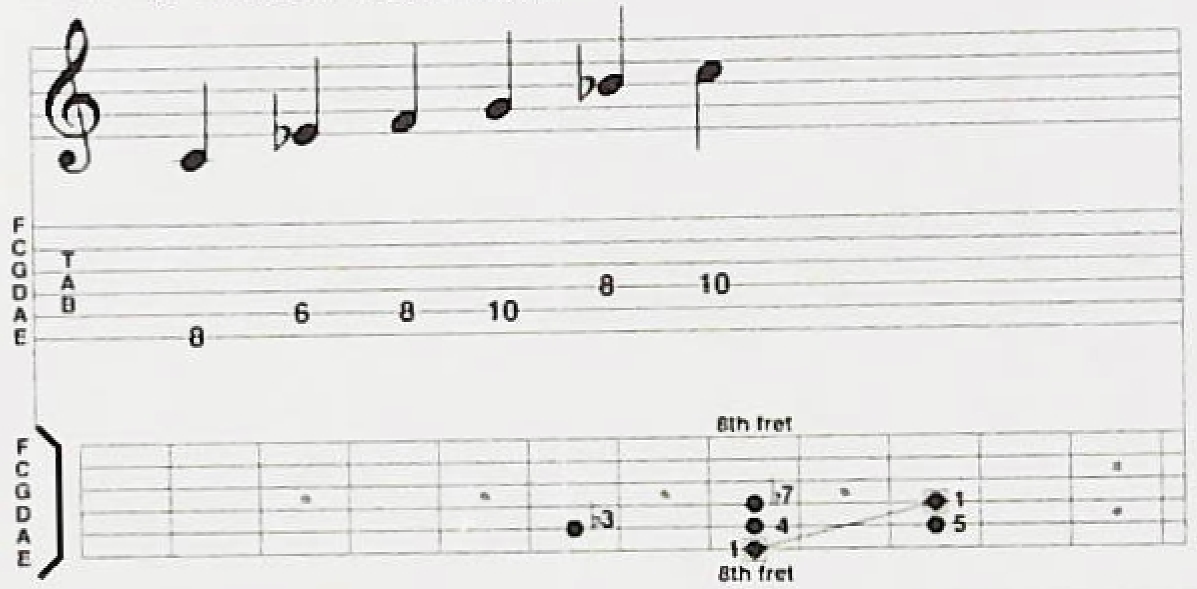
C Minor Pentatonic
URMSP or Ionian 3nps Major Scale Pattern / root on E string



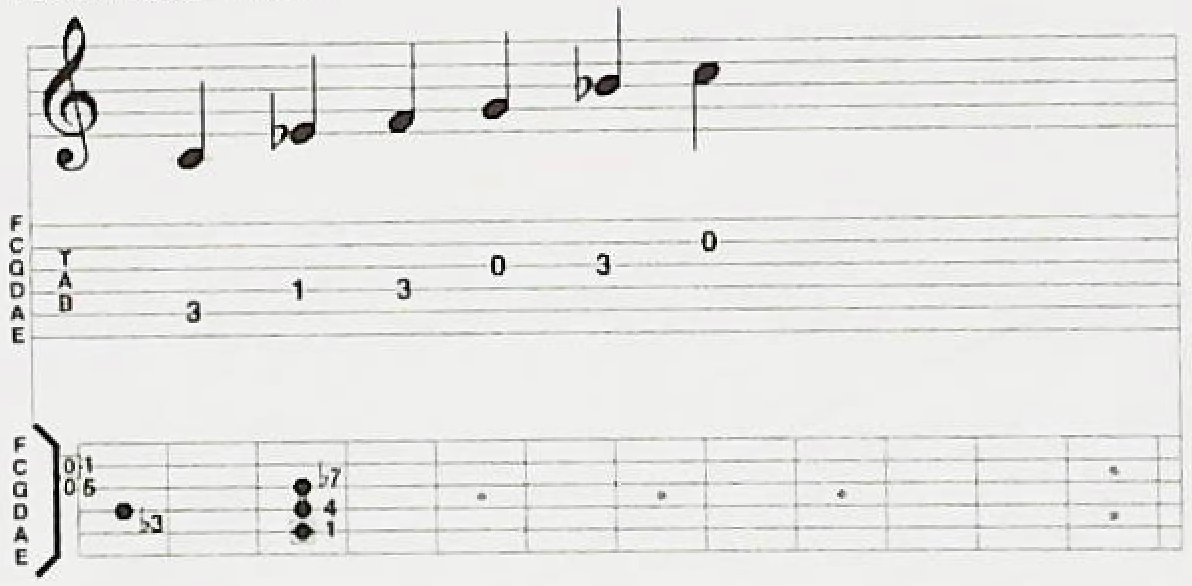
C Minor Pentatonic
Traditional Major Scale Pattern #2 / root on A string



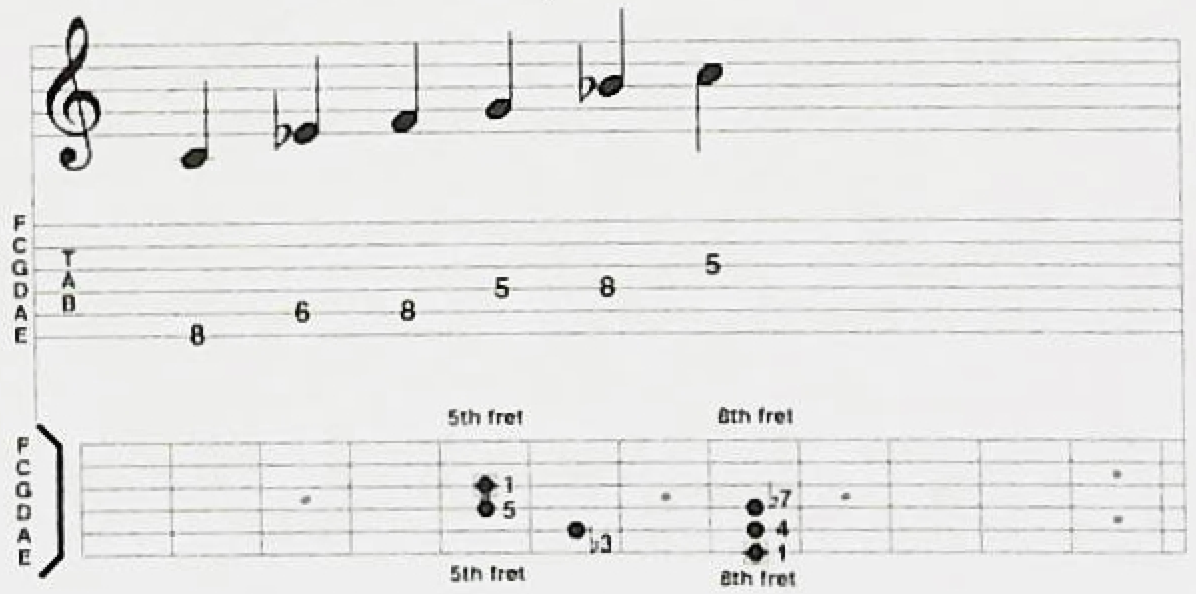
C Minor Pentatonic
Traditional Major Scale Pattern #4 / root on E string



C Minor Pentatonic
Traditional Major Scale Pattern #1 / root on A string



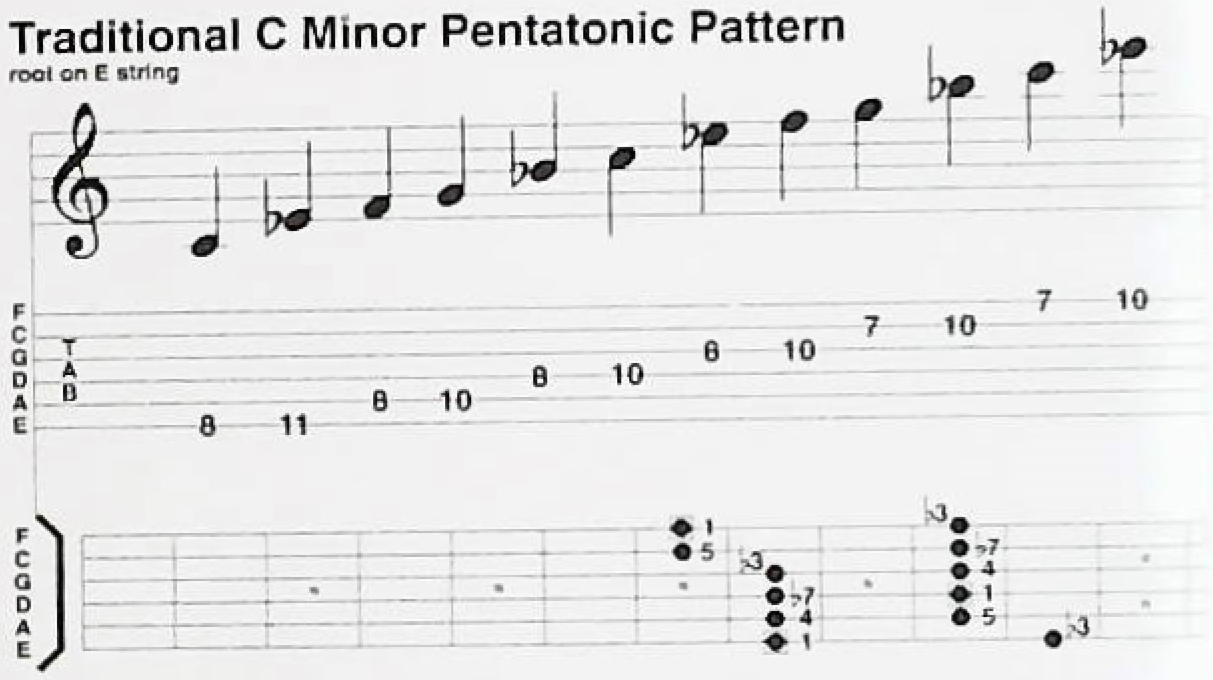
C Minor Pentatonic
Traditional Major Scale Pattern #3 / root on E string



Example 19-D shows the traditional minor pentatonic pattern using Radical Rules/Zgrid tuning. This pattern (or shape) tends to be the first soloing pattern learned by the majority of players, both famous and not so famous. Again, if you use the same pattern or shape as other players, your fingers will "move" in very much the same manner as those players using the same shape, resulting in similar lines and solos. *Mother Nature* seems to "rule" in this situation. This is the reason why I emphasize non-traditional patterns and shapes. Breaking-the-mold seems to create fresh ideas in uncharted territories. Go ahead and give traditional patterns a try whenever you want to re-create traditional styles of music. But, if you intend on breaking new ground with your signature music, go for non-traditional patterns and pattern combinations. You may even discover one or two non-traditional patterns which work 1000% better for your comfort-zone when compared with traditional shapes. Personally, I have discovered anything non-traditional works great! The non-traditional approach really got things together for me, and I recommend it highly!

Example 19-D:

Traditional C Minor Pentatonic Pattern
root on E string



Blues Scale

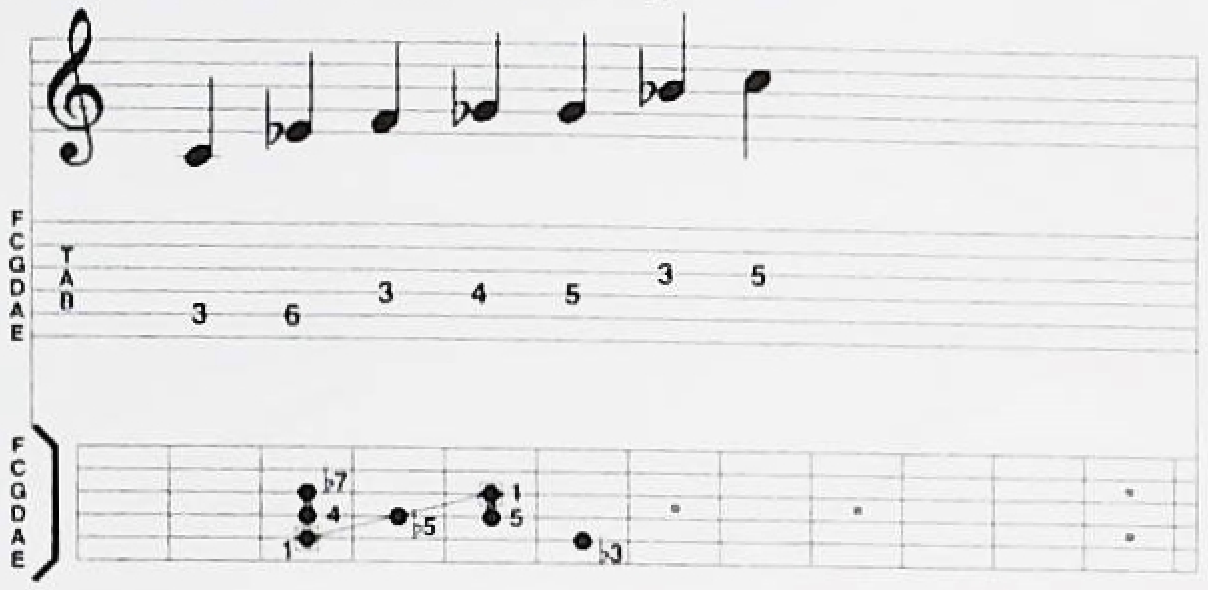
Considered a member of the minor pentatonic family, the *blues scale* seems to find its way into many diverse musical styles. It's the scale-of-choice when human, voice-like qualities are required during soloing and fills. As a matter of fact, it tends to be one of the most stinging and emotional scales due to the addition of the flat five (♭5). Referred to as the *blue note*, the ♭5 is responsible for the characteristic sound of this unique scale. The blues scale is really just a minor pentatonic scale with the addition of the ♭5, which is typically heard as a *bending tone*. That is, only when bending to and from the 4th and 5th degrees, although it can equally function the same as any note found within the minor pentatonic scale. Super-glue this scale into your brain and make it stick like Teflon®.

IMPORTANT Blues scale formula: 1-♭3-4-♭5-5-♭7.

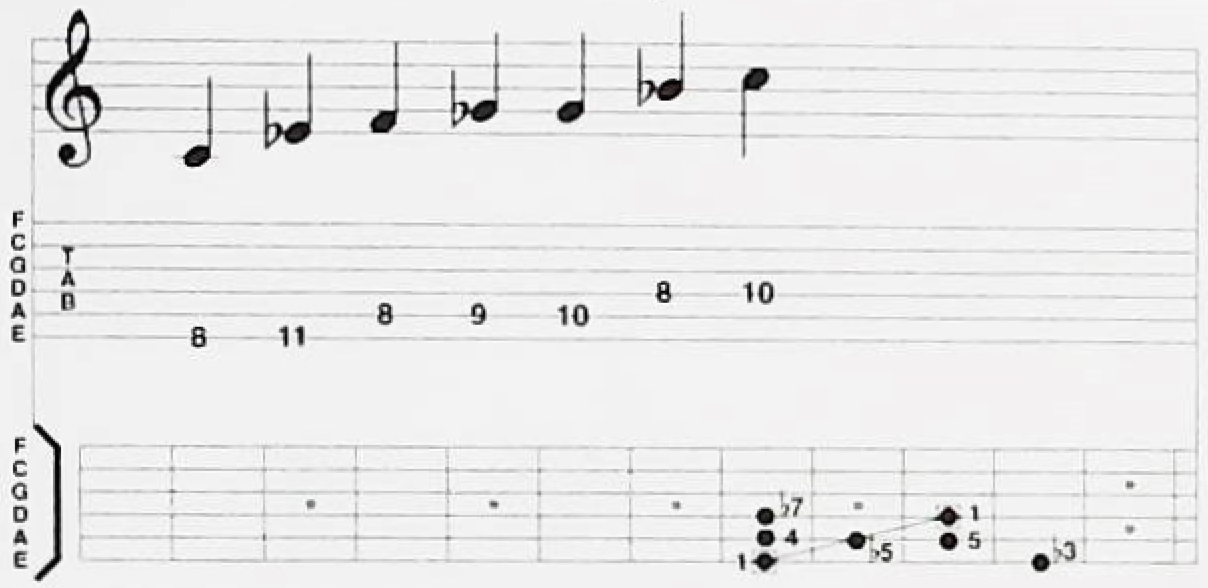
Example 19-E shows a variety of major scale patterns altered to fit the blues scale formula. *Example 19-F* demonstrates the traditional blues scale pattern over two octaves. Don't forget, this traditional pattern is just an altered major scale. I suggest you experiment with all examples in search of your personal comfort-zone. Of course, the important thing is to memorize the formulas and know the location of all scale degrees. The blues scale can be played over its minor key center and/or over its relative major key center.

Example 19-E:

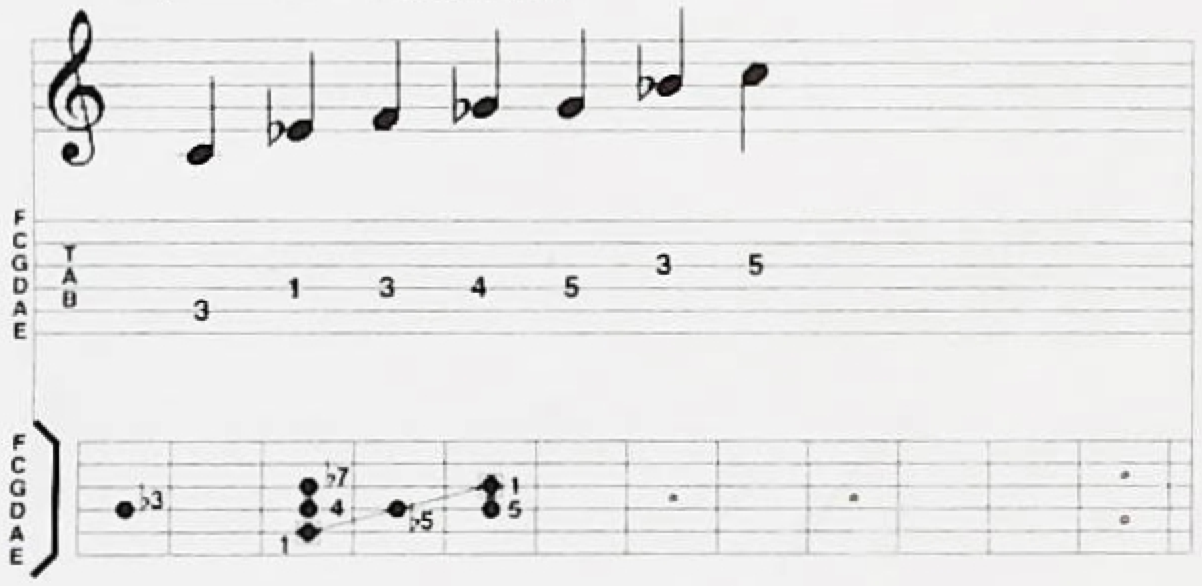
C Blues Scale
URMSP or Ionian 3nps Major Scale Pattern / root on A string



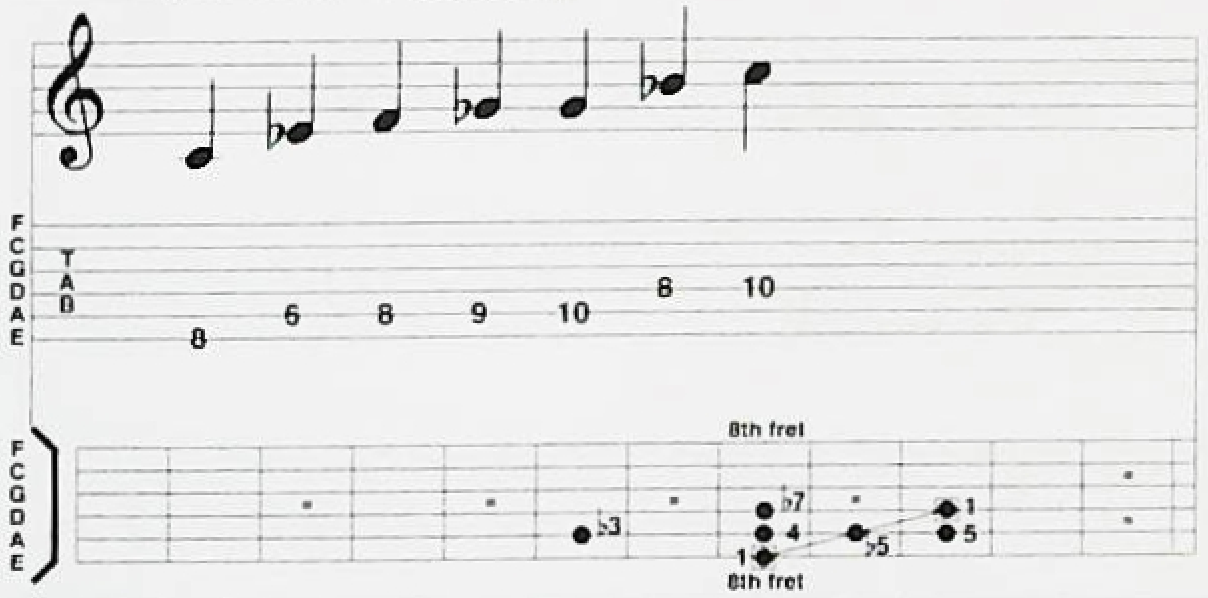
C Blues Scale
URMSP or Ionian 3nps Major Scale Pattern / root on E string



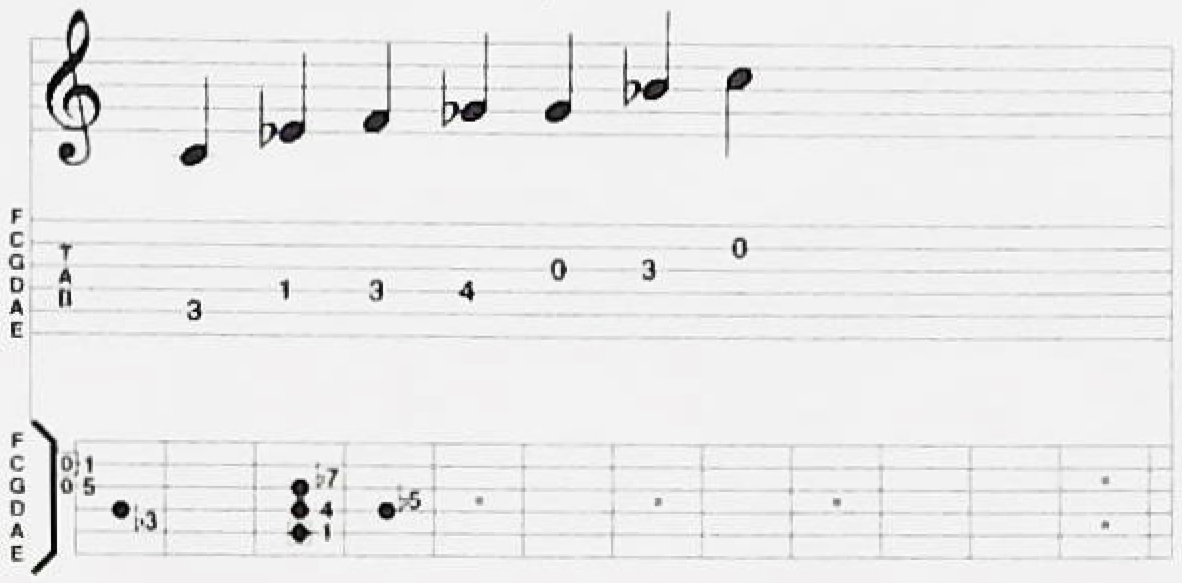
C Blues Scale
Traditional Major Scale Pattern #2 / root on A string



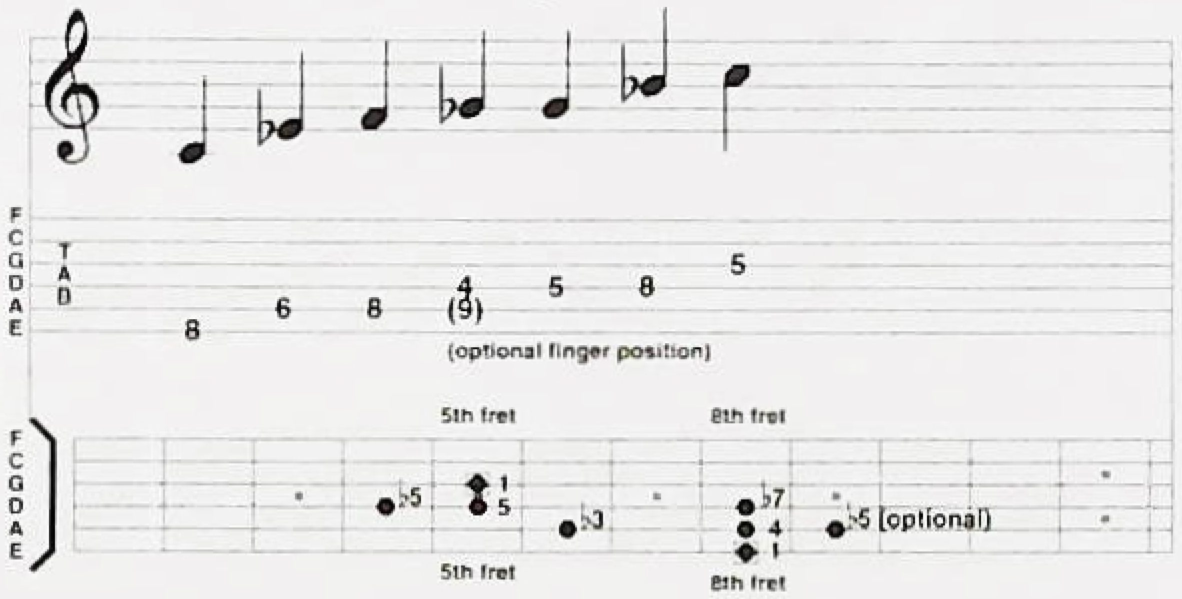
C Blues Scale
Traditional Major Scale Pattern #4 / root on E string



C Blues Scale
Traditional Major Scale Pattern #1 / root on A string

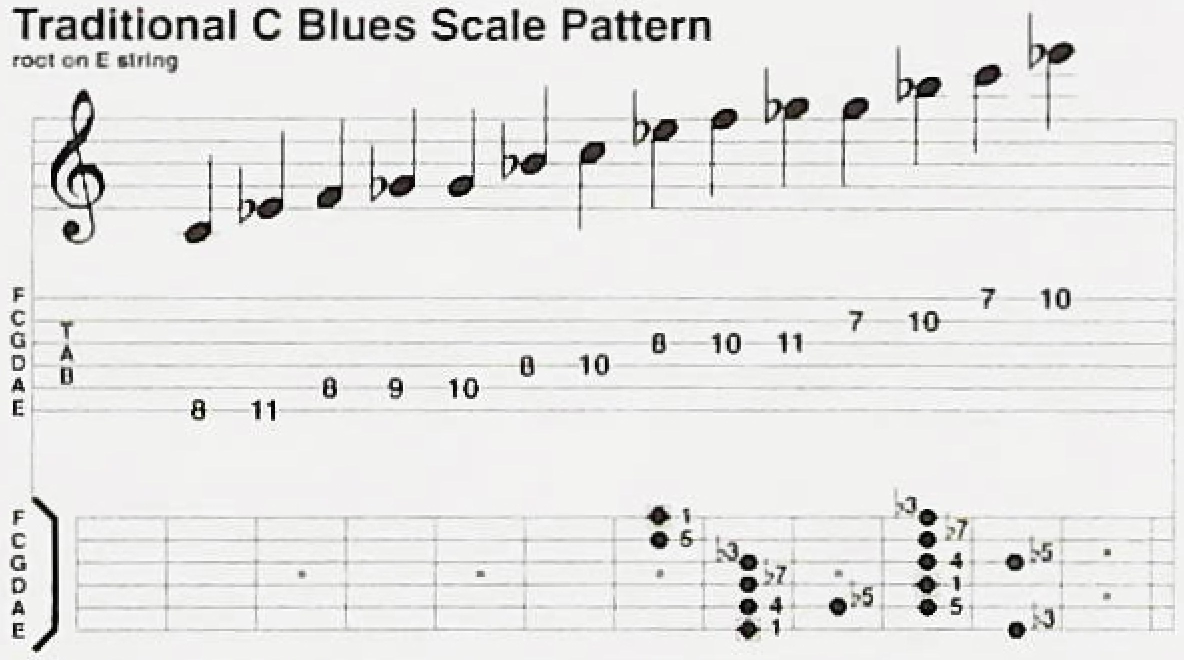


C Blues Scale
Traditional Major Scale Pattern #3 / root on E string



Example 19-F:

Traditional C Blues Scale Pattern
root on E string



Blue Note/Major Scale

Is it possible to make a major scale sound bluesy over a major key center? Most musicians will resort to the major scale's relative minor scale or pentatonic, add the ♭5 *blue note* and crank-away. Other guys think everything in "minor" is some form of the blues. Well, neither method is entirely correct. But, if it were, from where does the minor scale originate? Answer: it comes from the major scale! As I always say, everything in western music seems to revolve around the major scale. So, why is it necessary to leave the major scale and use other scale forms with different names and different roots? Well, I don't really know! Maybe some musicians like to show-off and confuse those around them with complicated and illogical systems? Adding the ♭3 (pronounced: "flat three" or "flat third") to the major scale and/or major pentatonic is all that's required to create a bluesy sounding major scale or major pentatonic over a major key center. Think about it! Since any major scale contains the same, exact notes as its relative minor, only the intervals and scale degrees are changed. ***When keys are relative to one another, the ♭3 in a major key is the same note as the ♭5 in a minor key.***

Example 19-G compares C major notes and scale degrees/intervals with its relative minor… the key of Am.

Example 19-G:

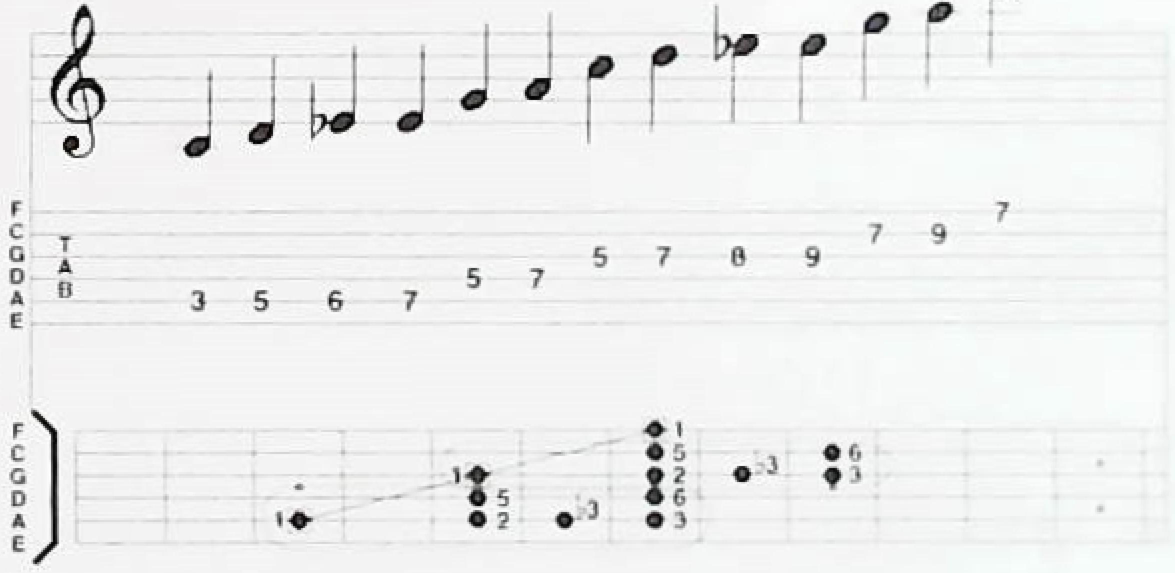
Relative Major / Minor	Notes Scale Degree / Interval	Blue Note
C Major Scale	C D E F G A B C 1 2 3 4 5 6 7 1	E♭ ♭3
A Minor Scale	C D E F G A B C ♭3 4 5 ♭6 ♭7 1 2 ♭3	E♭ ♭5

By adding the ♭3 to any major scale pattern such as my personal favorite URMSP, we have created a major scale with a *blues texture*. Don't forget, any scale containing the ♭3 is normally reserved for minor scales. But, in this major scale situation, the ♭3 is considered a *passing tone* because it is only played when bending or passing to and from the 2nd and 3rd degrees. Most "pro" performers have at least one comfort-zone scale pattern that they use for the majority of their playing needs because it works for them. They don't grab aimlessly for hundreds of different patterns. As Joe Diorio said: *"It would take a lifetime to work with scales and pentatonics."* As a musician, you need to develop a pattern that works for you! There's not enough time to misuse patterns and/or systems which work against you. So, always strive to seek-out your comfort-zone scale pattern or pattern combination, and repeat it over and over and over. ***Repetition*** is one of the major components for success!

Example 19-H presents my personal comfort-zone URMSP pentatonic with a ♭3. ***Don't play the ♭3!*** Only bend from the 2nd degree "up" to the ♭3 (half-step bend), or to the 3rd degree (whole-step bend). You can also *reverse* the bend from the 3rd degree "down" to the ♭3 (half-step bend), or to the 2nd degree (whole-step bend). It's up to you! Don't forget, anything is possible because there are no *Music Police!*

Example 19-H:

C Major Pentatonic with ♭3
URMSP / root on A string



The L.A. Pentatonic

There's a new pentatonic being used by some of the guys in Los Angeles. It's very similar to the major pentatonic, and could possibly be called a *dominant pentatonic*. But, I prefer to call this new pentatonic creation the *L.A. pentatonic*. The L.A. *penta* consists of more than five notes, but it is still considered a pentatonic. Try the L.A. *major* pentatonic over the harmonized *major* scale, and the L.A. *minor* pentatonic over the harmonized *minor* scale.

IMPORTANT L.A. major pentatonic: 1-2-3-5-6-♭7
L.A. minor pentatonic: 1-♭2-♭3-4-5-♭7.

Homework/Chapter 19

ASSIGNMENT ONE... Write one original song in three versions with lyrics. Song version one should combine the *major* pentatonic with the harmonized *major* scale, song two should incorporate the *minor* pentatonic with the harmonized *minor* scale, and song version number three should demonstrate the blues scale with the appropriate harmonized scale (i.e. the ***major*** blues scale matched with the harmonized ***major*** scale, or the ***minor*** blues scale combined with the harmonized ***minor*** scale). The standard leadsheet format should be used for melody, lyrics, and chords.

ASSIGNMENT TWO... Continue the quest for your comfort-zone major scale pattern or pattern combination.

ASSIGNMENT THREE... "Song-of-the-Week." Do it! Use it!

THE BOTTOM LINE... Develop the ability to "hear" and understand the similarities/differences between major "pentas" (slang abbreviation for pentatonics), minor "pentas," and the blues scale. As with all chapters, repeat this chapter for at least **one week.**

CHAPTER 20

Major Tonality Scales

This is a spooky subject! Lots of guys and gals think *modes* can make your playing sound totally incredible. Unfortunately, these same musicians misuse and/or misinterpret modal theory. The textbook definition of modes is simply an *inversion* of a diatonic scale. Don't forget, an inversion is only a rearrangement of notes within a diatonic scale. Rearranging the order of notes will not help to create anything new, different, exciting, or extraordinary –because the notes are exactly same! But, understanding major scale modal formulas, and applying them appropriately, will definitely entitle you to lots of fresh, innovative lines, and lots of blistering, tonsil-shredding solos.

Since there are seven notes in the major scale, then there are also seven possible major scale inversion combinations. Modes are referred to and described as Greek names. These foreign names really sound scary and intimidate most music students who are unfamiliar with modal theory. But, don't give-up! The following chart presents the seven major modes with Greek names and note inversions. The key of C major is demonstrated.

Example 20-A is only for demonstration purposes, and should not be memorized. But, it is crucial to memorize the order in which the modal names appear, beginning with Ionian (mode #1) and ending with Locrian (mode #7). It's important not to confuse the sequence of inversions or modes. The following sentence is a noteworthy method for modal sequence memorization:

If **D**ora **P**lays **L**ike **M**e **A**ll's **L**ost!

Ionian **D**orian **P**hrygian **L**ydian **M**ixolydian **A**eolian **L**ocrian

Regrettably, most musicians' understanding of modal theory terminates at this stage. Up to this point, we have only seen a rearranged major scale. But don't stop now! The next step is to call the mode by its root (i.e. C Ionian, D Dorian, E Phrygian, F Lydian etc.). Unfortunately, when playing in the key of C, major scales or modes with names and roots other than "C" only cause confusion and frustration. In fact, **modal magic begins *after* learning to determine and combine modal scale formulas with *matching harmonized scales.*** These matching systems will be discussed in Radical Rules (levels 7 and 8). But, for the remainder of level 5, we will only cover major and minor tonality scales (i.e. modal and non-modal scales containing notes to be played over major key centers and minor key centers respectively).

Example 20-A:

Scale Degree and Interval (key of C major)	Alphabet Letter Names	Modal Terminology	Scale Notes and Scale Inversions
		C Major Scale Root Position	C Major Scale Root Position
1	C	Ionian	C-D-E-F-G-A-B
		C Major Scale Inversions	C Major Scale Inversions
2	D	Dorian	D-E-F-G-A-B-C
3	E	Phrygian	E-F-G-A-B-C-D
4	F	Lydian	F-G-A-B-C-D-E
5	G	Mixolydian	G-A-B-C-D-E-F
6	A	Aeolian	A-B-C-D-E-F-G
7	B	Locrian	B-C-D-E-F-G-A

Major Modal Scales

As discussed earlier in this book, scales *without* a ♭3 tend to sound somewhat *major* in quality. Scales *with* a ♭3 tend to sound somewhat *minor* in quality. Of the seven available major scale modes, three are major in quality. The remaining four modes are minor in quality. *Example 20-B* shows the three scales by name, formula, and member notes. The key of C major is presented, and all three modal scales can be played over the key of C major. Excluding the C Ionian scale, which is 100% diatonic to the C major scale (because it really is the C major scale with a redundant name), the flat and sharp notes found within some scales indicate that you will be slightly "outside" of the diatonic C major scale. When played over the key of C major (i.e. played over a *harmonized* C major scale), these scales should be considered altered scales rather than modes.

IMPORTANT This approach to modes is an extremely simplified technique, and does not fully exploit the unique sound of each mode. Modal scale formulas are shown *without* their matching harmonized scales in *example 20-B*. Without correctly matched harmonized scales, the characteristic modal sound will not be heard! Modes and their matching harmonized scales are in Radical Rules (levels 7 and 8).

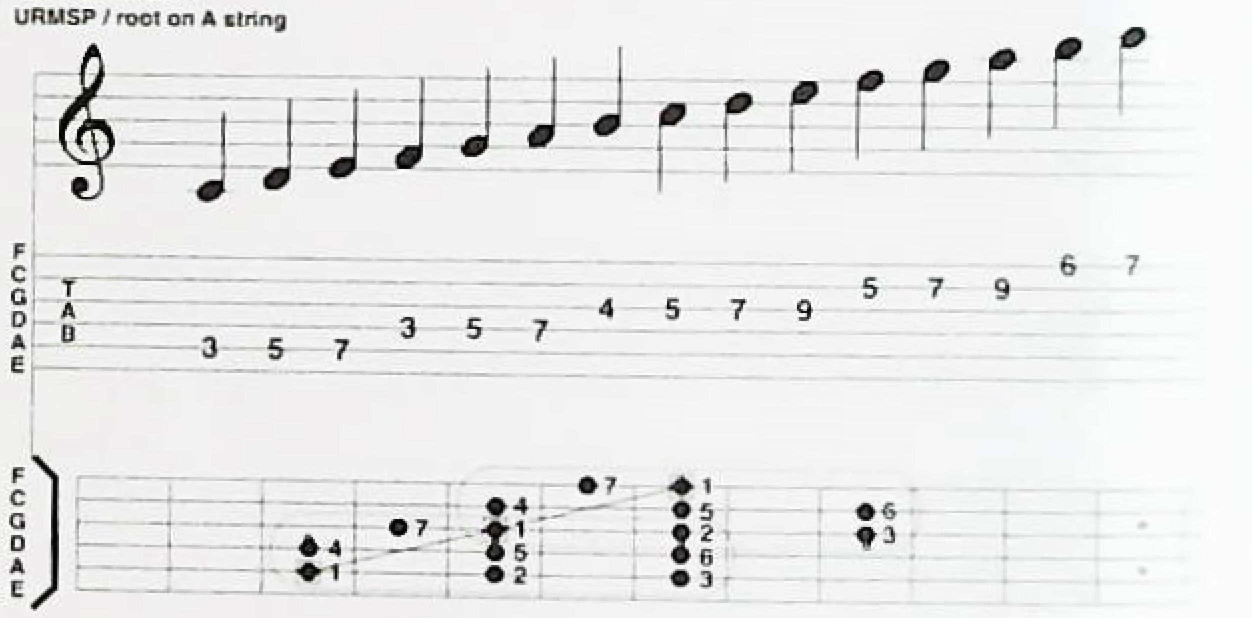
Example 20-B:

Mode Names	Mode Formulas	Mode Member Notes
Unaltered C Major Scale	Unaltered C Major Scale	Unaltered C Major Scale
C Ionian	1-2-3-4-5-6-7	C-D-E-F-G-A-B
Altered C Major Scales	Altered C Major Scales	Altered C Major Scales
C Lydian	1-2-3-♯4-5-6-7	C-D-E-F♯-G-A-B
C Mixolydian	1-2-3-4-5-6-♭7	C-D-E-F-G-A-B♭

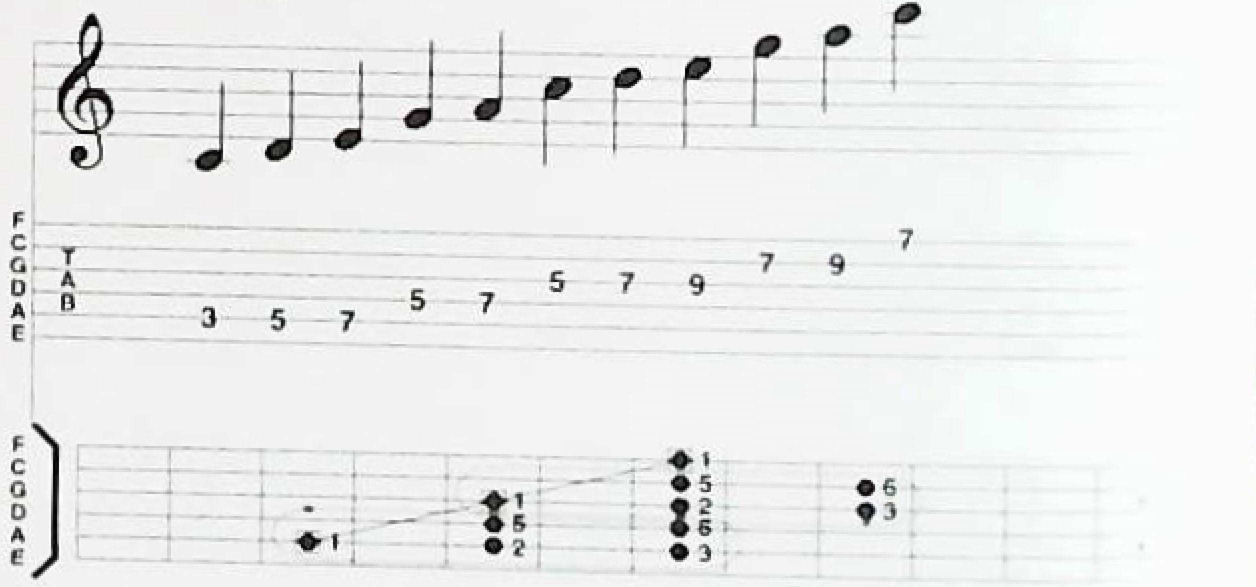
Example 20-C shows the C Ionian, C Lydian, and C Mixolydian scales based on the URMSP. If you have already burned-in this pattern, simply altering the specified scale degrees is all that's required. My personalized pentatonics for these scales are also demonstrated. In order to create a major pentatonic, be sure to use the major pentatonic formula as a guideline. Or, you can break the rules like most musicians and create your own personalized five-note pentatonic scale. To get the full characteristic impact of these and all scales and/or modes, it's mandatory to combine scales with their matching harmonized scales. Matching systems are covered in Radical Rules (levels 7 and 8).

Example 20-C:

C Ionian
URMSP / root on A string

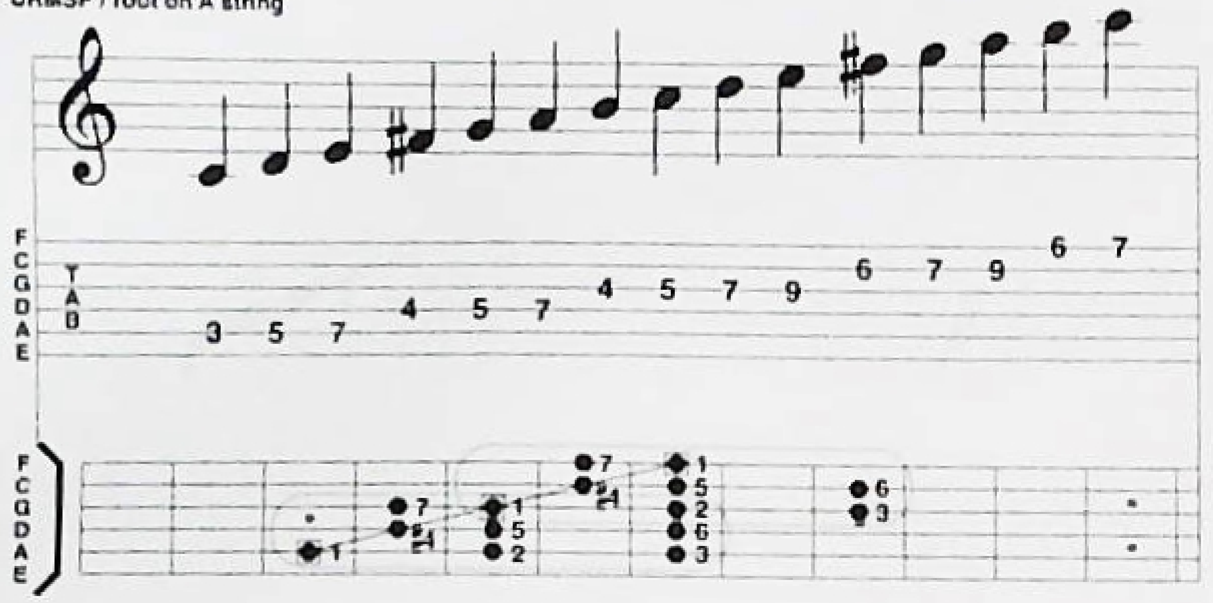


C Ionian Pentatonic
URMSP / root on A string



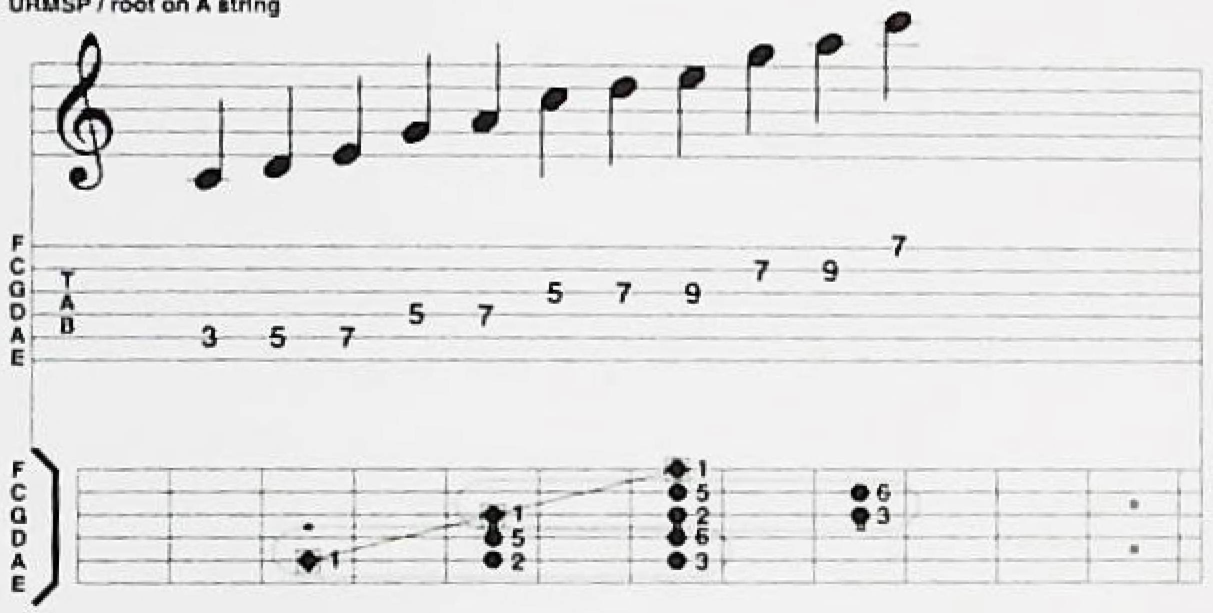
C Lydian

URMSP / root on A string



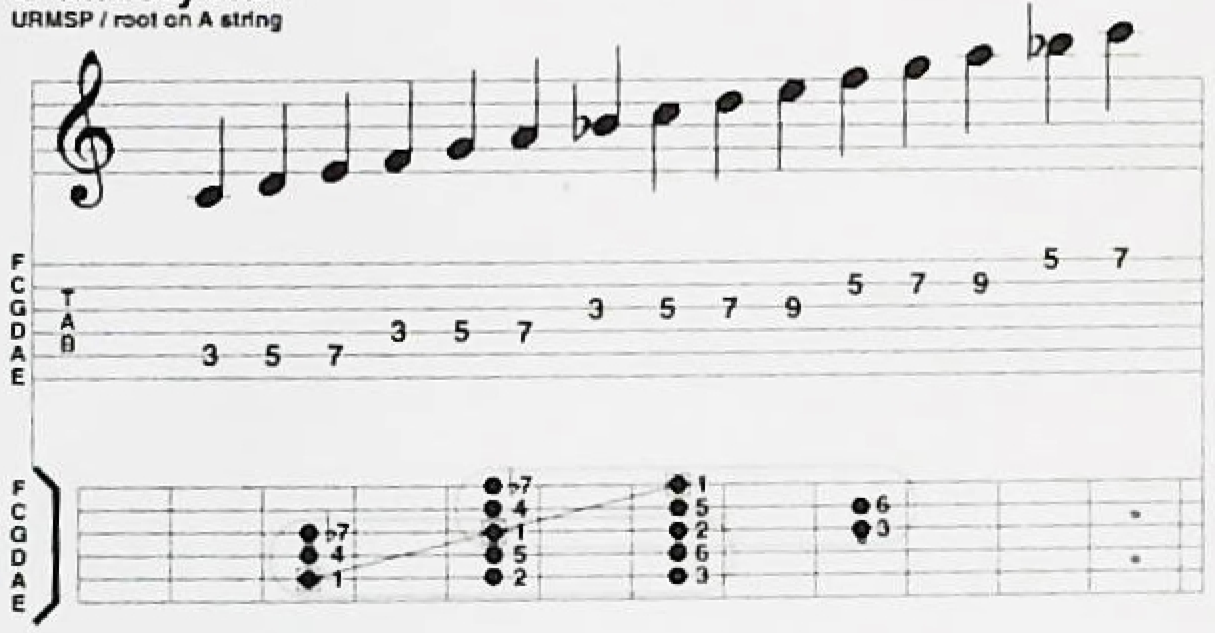
C Lydian Pentatonic

URMSP / root on A string



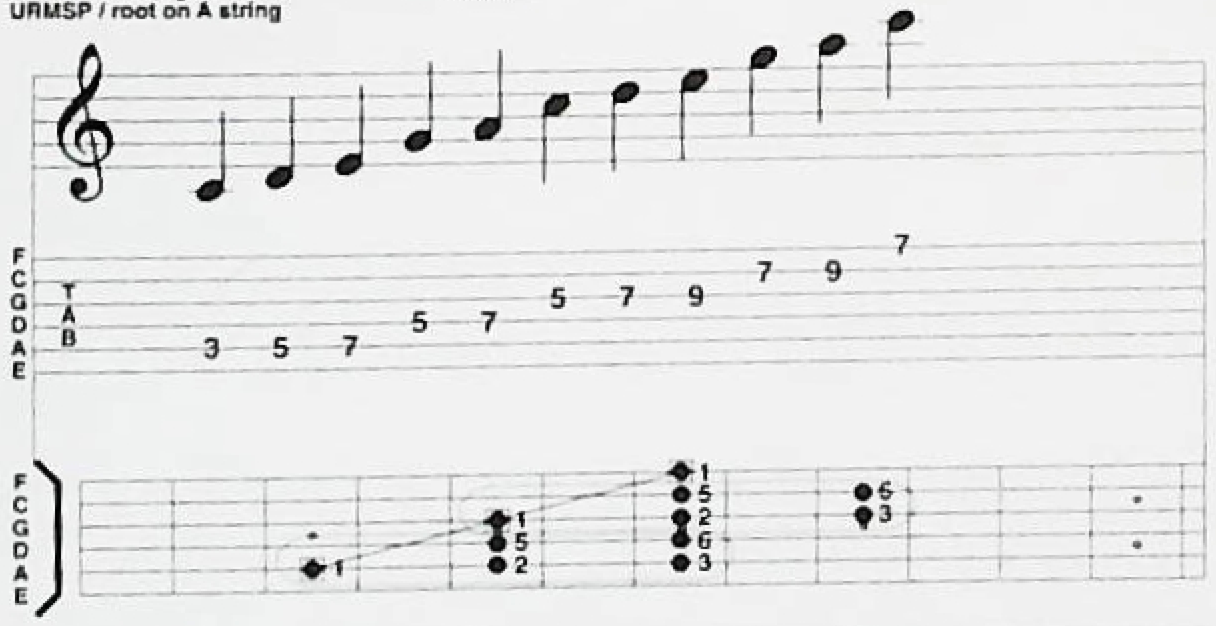
C Mixolydian

URMSP / root on A string



C Mixolydian Pentatonic

URMSP / root on A string



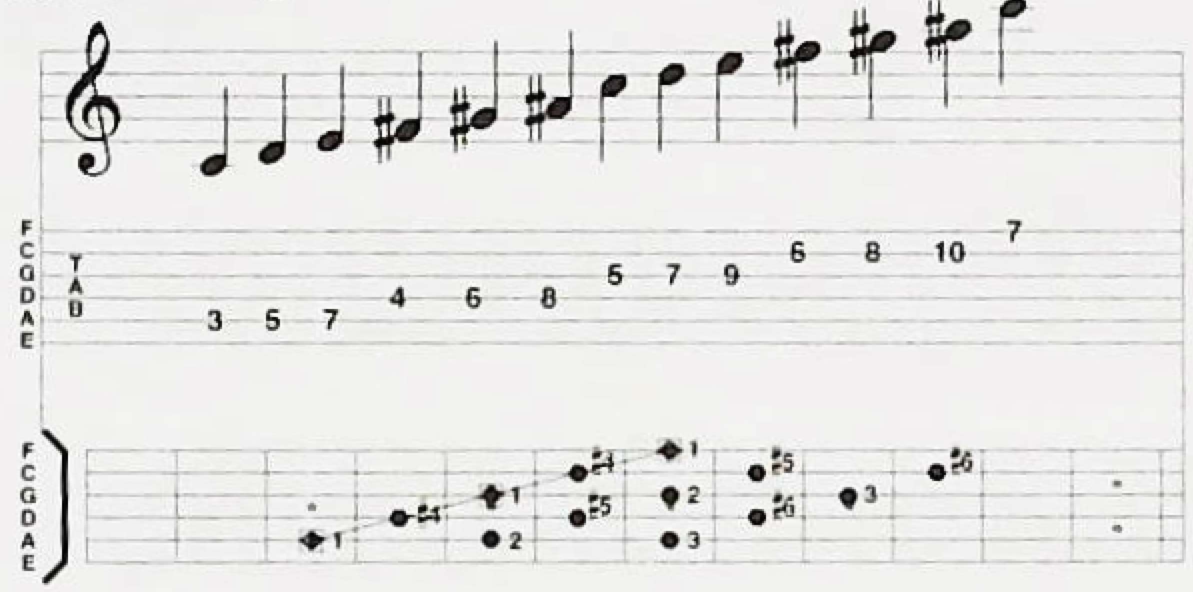
Augmented Scales

The *augmented scale* is made-up entirely of whole-steps, and is rightfully nicknamed the *whole tone scale.* Since this scale does not contain a ♭3, it's placed into the major scale family. Directly related to the augmented chord, the augmented scale is a *symmetrical scale* because it's constructed of intervals equal in *distance* and *quality.* Look closely at the fretboard diagram in *example 20-D* and you'll see that the augmented scale pattern endlessly repeats the same pattern or shape… up-the-scale and down-the-scale.

Example 20-D:

C Augmented / Whole Tone Scale

URMSP / root on A string



IMPORTANT Augmented/whole tone formula: 1-2-3-♯4-♯5-♯6.

Homework/Chapter 20

ASSIGNMENT ONE… Write one original song with lyrics in three versions. That is, song version number one should be based on the C Ionian scale, song version two the C Lydian scale, and song version three the C Mixolydian scale. I would suggest using the harmonized C major scale for your song's chord progression. The standard leadsheet format should be used for melody, lyrics, and chords. C Lydian and C Mixolydian (and the C augmented scale) will sound a little "outside" due to the accidentals. Don't forget, this is a simplified chordal approach, and does not fully exploit the unique sound of each mode! Matching harmonized scales must be used in order to achieve the full characteristic sound of each mode. Check Radical Rules (levels 7 and 8) for more info.

ASSIGNMENT TWO… Draw a fretboard diagram demonstrating the pattern and/or pattern combination used to perform assignment one, and explain the shape. Maybe it's your comfort-zone pattern?

ASSIGNMENT THREE… Repeat assignment one, but use *double-stops* for all solos. Double-stops is a term referring to the use of two notes sounded simultaneously, as opposed to single-note lines or solos. All member notes of the diatonic scale are available to be "paired" as double-stops, and sound awesome when played through a clean to semi-clean amp. Acoustic guitars are totally "cool" when applying this technique. As a major part of his trademark style, Jimi Hendrix incorporated double-stops during many of his chordal fills and solos.

ASSIGNMENT FOUR… Try to work-in the augmented scale into the above assignments as a surprise "fill" during your solo.

ASSIGNMENT FIVE… "Song-of-the-Week." Don't wimp out!

THE BOTTOM LINE… Develop the ability to "hear" the slight differences between Ionian, Lydian, and Mixolydian scales. Determine which scale feels and sounds good to you. Hey, it's time for you to begin working in musical areas which flow comfortably from your personality (i.e. something closer to your heart). You simply don't have enough practice time to work against your unique, individual instincts. Repeat and record this chapter for **one week.**

CHAPTER 21

Minor Tonality Scales

Since *major* scales are typically played over harmonized *major* scales, then it should follow that *minor* scales are played over harmonized *minor* scales. Discussed in a previous chapter were the relationships between relative/parallel major/minor keys. Understanding the relative/parallel concept is probably the easiest method for determining minor key chord progressions. For example, the harmonized C major scale contains the same chords as its relative minor, the harmonized A minor scale. Only the Roman numerals and chord functions have changed. Another example would be the harmonized E♭ major scale, which contains the same chords as its relative minor, the harmonized C minor scale. Again, only the Roman numerals and chord functions have changed. So, as usual, it's possible to derive everything from the major scale. You must only find a major scale's 6th degree to determine its relative minor key. The major scale's 6th degree chord also functions as the root chord or the I chord (pronounced: "the one chord") of the harmonized minor key with the same name. Check-out *example 21-A* for details.

Example 21-A:

Roman Numeral	Harmonized Major Scale (C major is the relative major of Am)	Harmonized Minor Scale (Am is the relative minor of C major)
I	Cmaj	Am
II	Dm	Bdim
III	Em	Cmaj
IV	Fmaj	Dm
V	Gmaj	Em
VI	Am	Fmaj
VII	Bdim	Gmaj

Roman Numeral	Harmonized Major Scale (E♭ major is the relative major of Cm)	Harmonized Minor Scale (Cm is the relative minor of E♭ major)
I	E♭ maj	Cm
II	Fm	Ddim
III	Gm	E♭ maj
IV	A♭ maj	Fm
V	B♭ maj	Gm
VI	Cm	A♭ maj
VII	Ddim	B♭ maj

It's important to remember that harmonized *minor* scale chords can be treated with the same set of rules as those applied to harmonized *major* scale chords. For example, tonic, subdominate, dominate, and diatonic substitution formulas can all be applied to harmonized minor scale chords. As stated earlier, anything applied to major keys may also be applied to minor keys.

Be aware that the above harmonized minor scale approach is presented at this time to provide the reader with some basic minor scale fundamentals from which to work. The system presented for locating and determining harmonized minor scales may not be the fastest method, but it is proven to be an outstanding foundation.

Minor Modal Scales

As discussed earlier, scales *without* a ♭3 tend to sound somewhat *major* in quality. Scales *with* a ♭3 tend to sound somewhat *minor* in quality. Of the seven available major scale modes, three are major in quality. The remaining four modes are minor in quality. The next chart shows the four minor modal scales by name, formula, and member notes. The key of C major is presented, and all four modal scales can be played over the key of C minor. Flat notes placed within some scales indicate that you will be slightly "outside" of the diatonic C minor scale. When played over the key of C minor (i.e. played over a *harmonized* C minor scale), these scales should be considered altered scales rather than modes.

IMPORTANT This approach to modes is an extremely simplified technique, and does not fully exploit the unique sound of each mode. Modal scale formulas are shown *without* their matching harmonized scales in *example 21-B*. Without correctly matched harmonized scales, the characteristic modal sound will not be heard! Modes and their matching harmonized scales are in Radical Rules (levels 7 and 8).

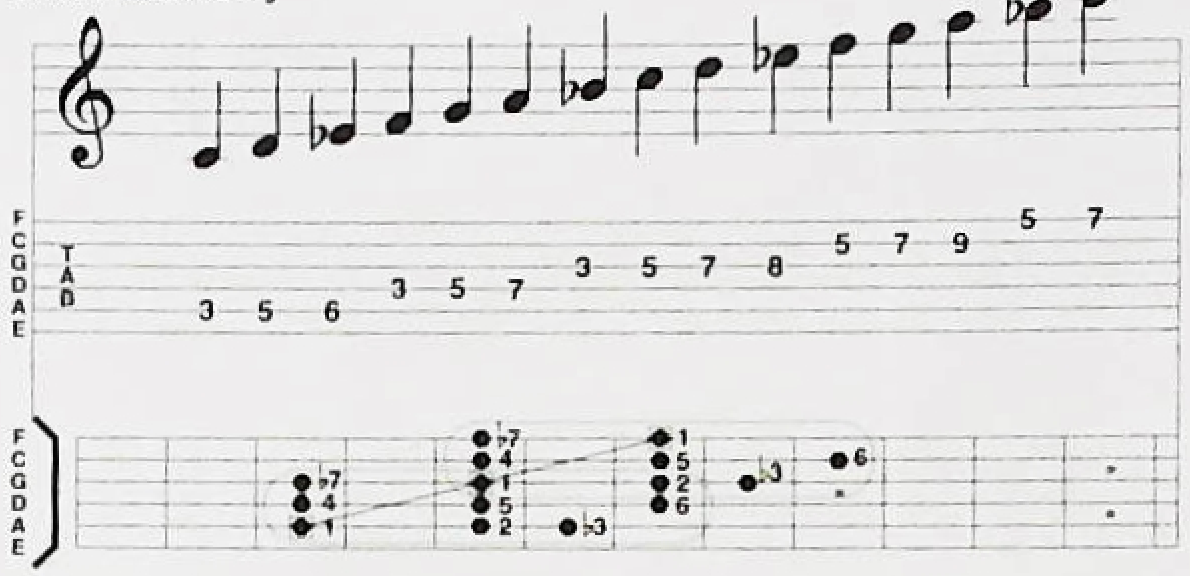
Example 21-B:

Scale Names	Scale Formulas	Scale Member Notes
Unaltered C Major Scale	Unaltered C Major Scale	Unaltered C Major Scale
C Major (C Ionian)	1-2-3-4-5-6-7	C-D-E-F-G-A-B
Altered C Major Scales	Altered C Major Scales	Altered C Major Scales
C Dorian	1-2-♭3-4-5-6-♭7	C-D-E♭-F-G-A-B♭
C Phrygian	1-♭2-♭3-4-5-♭6-♭7	C-D♭-E♭-F-G-A♭-B♭
C Aeolian	1-2-♭3-4-5-♭6-♭7	C-D-E♭-F-G-A♭-B♭
C Locrian	1-♭2-♭3-4-♭5-♭6-♭7	C-D♭-E♭-F-G♭-A♭-B♭

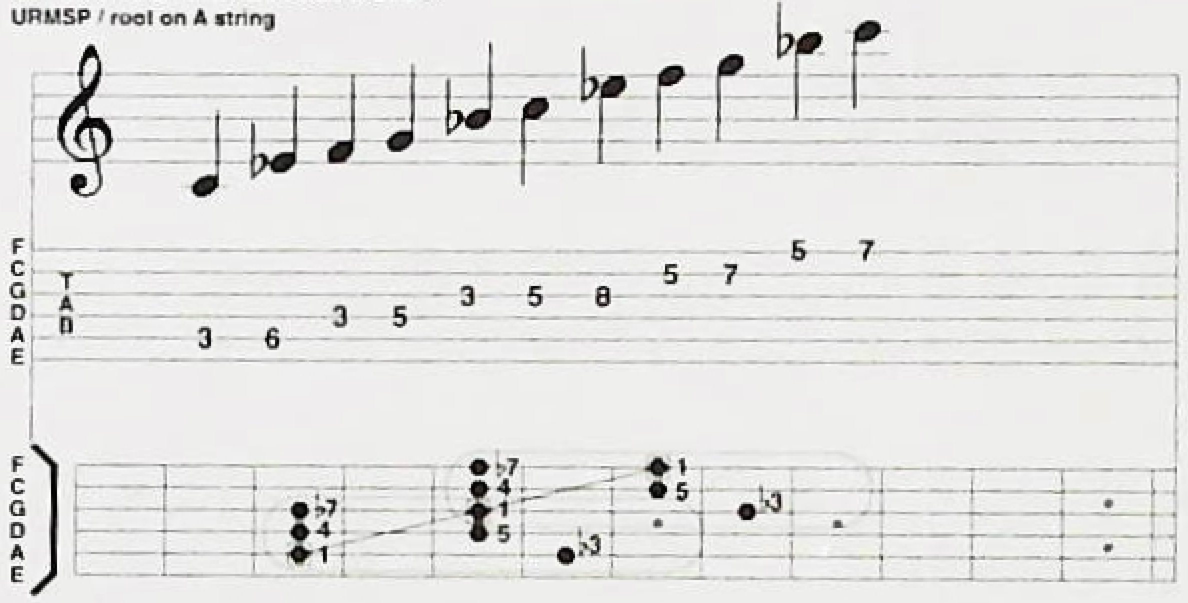
Example 21-C shows the C Dorian, C Phrygian, C Aeolian, and C Locrian scales based on the URMSP. If you have already burned-in this pattern, simply altering the specified scale degrees is all that's required. My personalized pentatonics for these scales are demonstrated. In order to create a minor pentatonic scale, use the minor pentatonic formula as a guideline. Or, break the rules like me and create your own personalized five note pentatonic scales and shapes. ***Don't forget, in order to get the full characteristic impact of these and all scales, it's mandatory to combine scales with their matching harmonized scales!*** Details can be found in Radical Rules (levels 7 and 8).

Example 21-C:

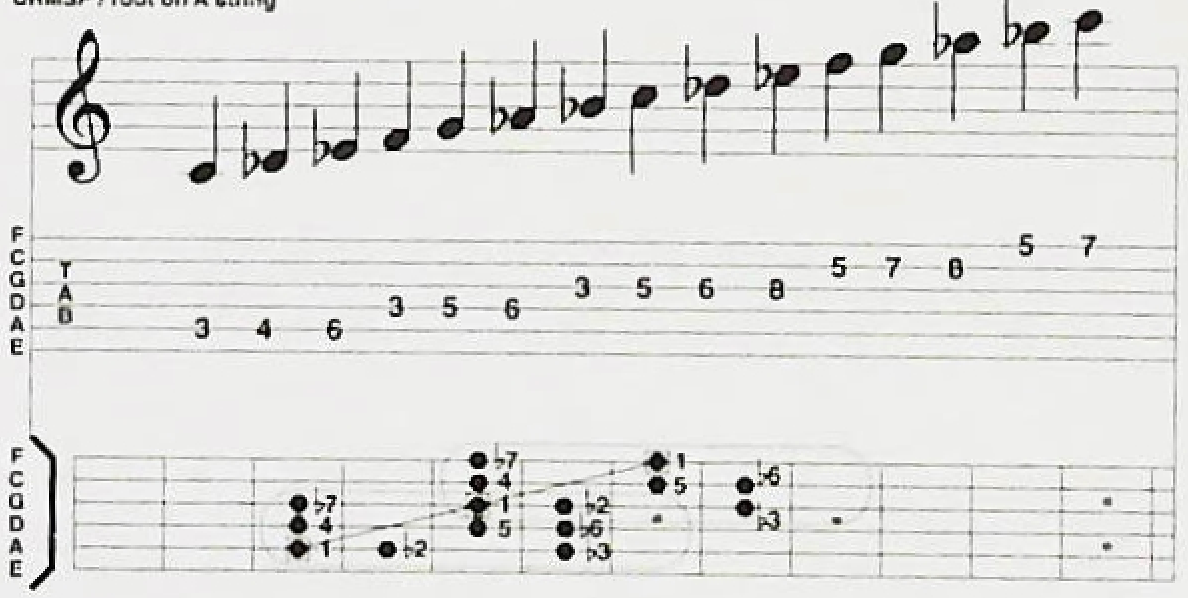
C Dorian
URMSP / root on A string



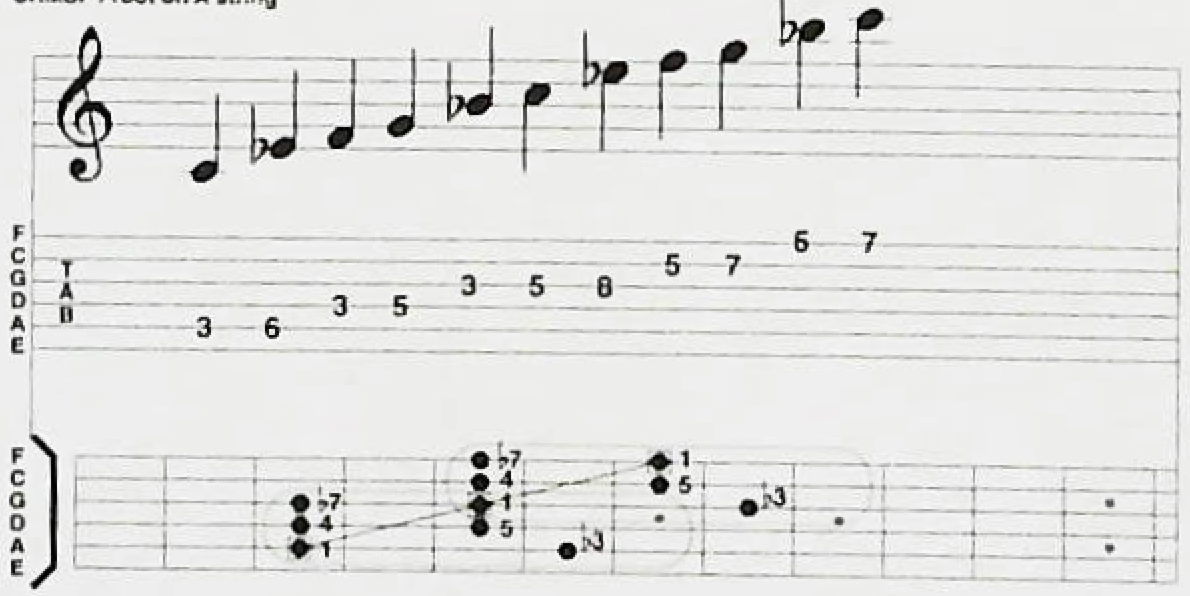
C Dorian Pentatonic
URMSP / root on A string



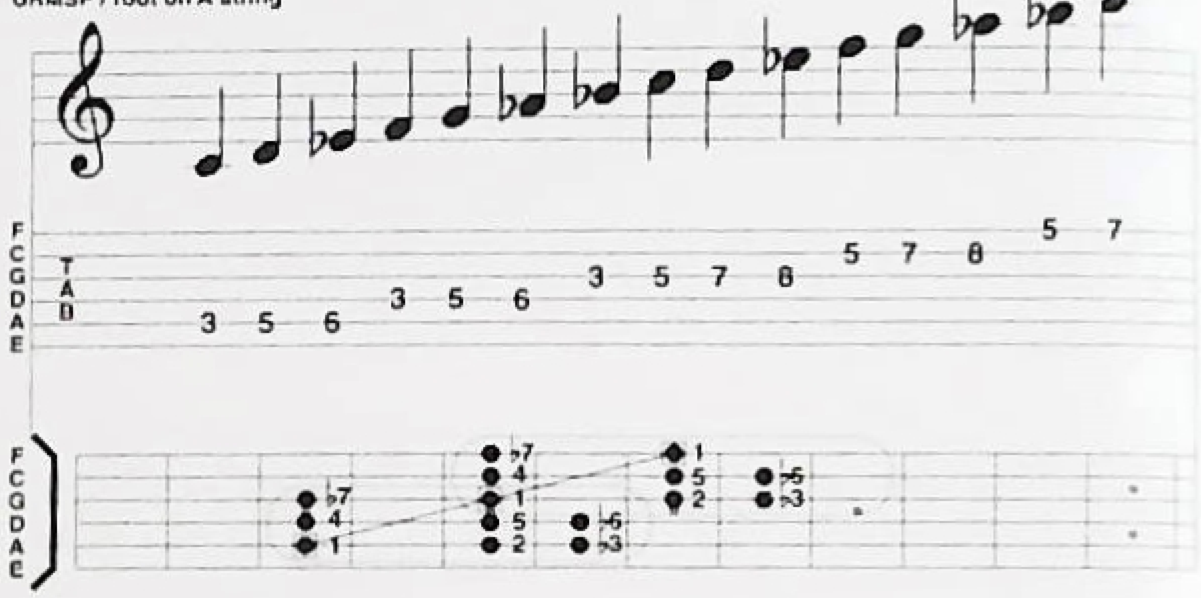
C Phrygian
URMSP / root on A string



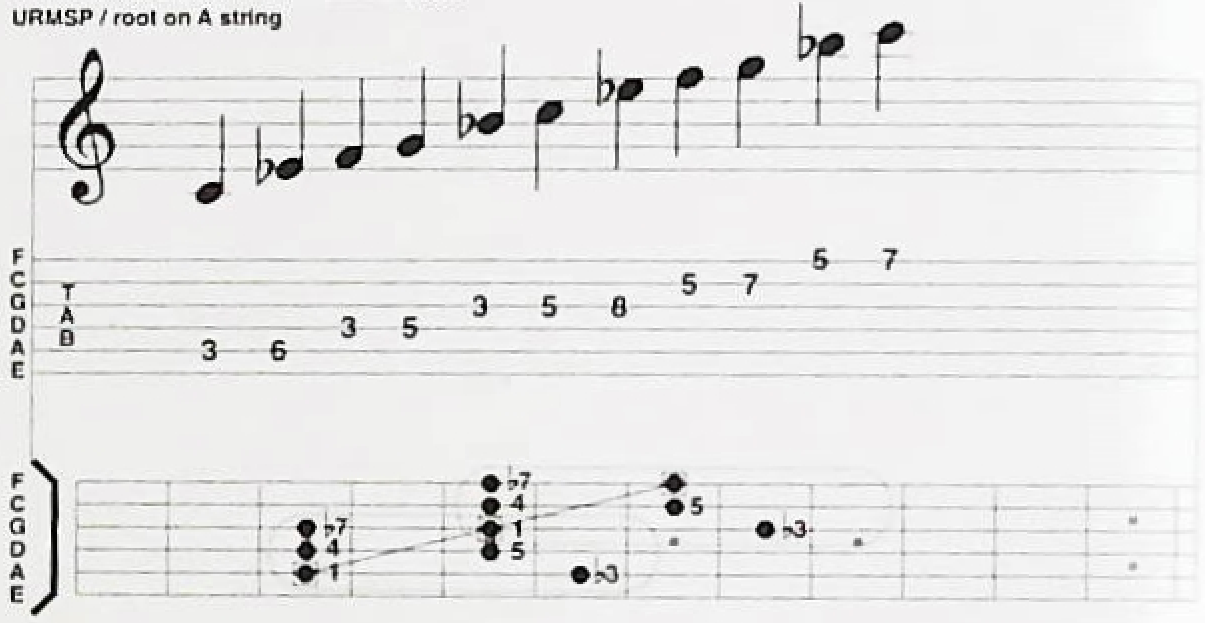
C Phrygian Pentatonic
URMSP / root on A string



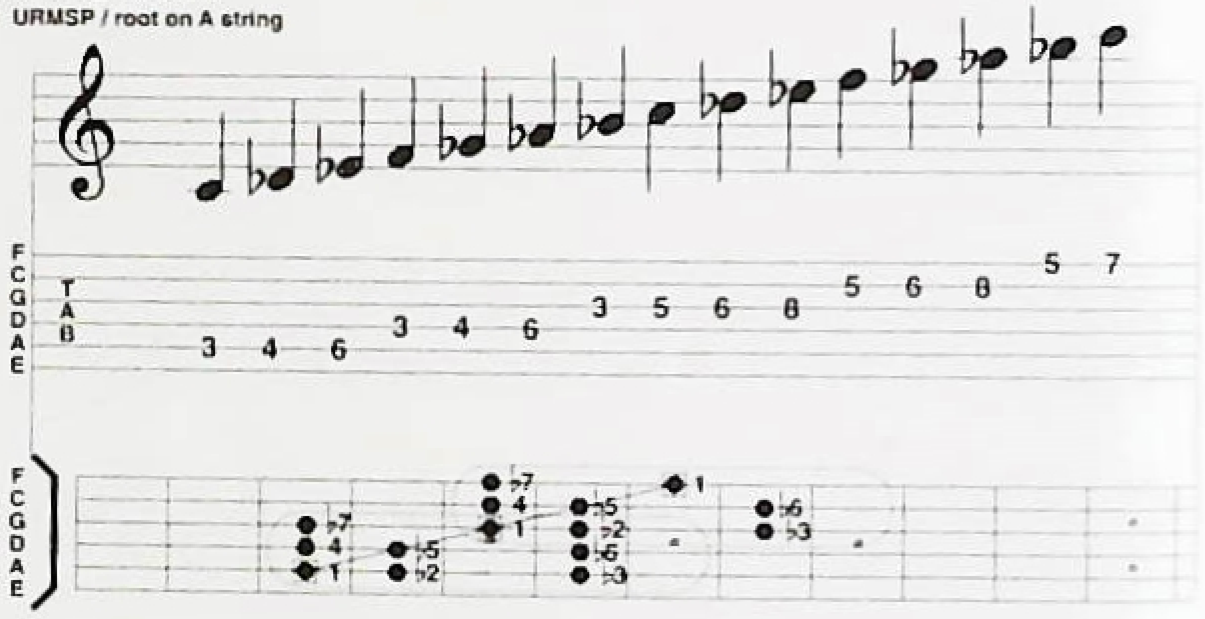
C Aeolian
URMSP / root on A string



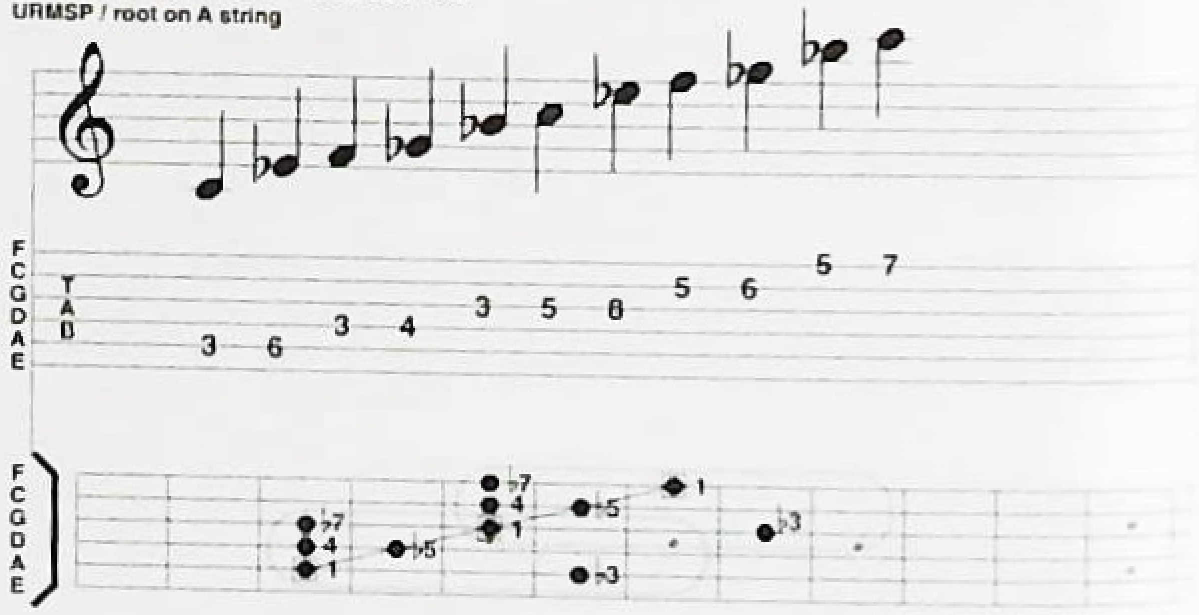
C Aeolian Pentatonic
URMSP / root on A string



C Locrian
URMSP / root on A string



C Locrian Pentatonic
URMSP / root on A string



Homework/Chapter 21

ASSIGNMENT ONE… Write an original song with lyrics in four versions. Song version number one should be based upon a C Dorian scale, song two the C Phrygian scale, song three the C Aeolian scale, and song four the C Locrian scale. Use the harmonized C minor scale for your song's chord progression. The standard leadsheet format should be used for melody, lyrics, and chords. Don't forget, this is a simplified chordal approach, and does not fully exploit the unique sound of each mode! Matching harmonized scales must be used in order to achieve the full characteristic sound of each mode (Radical Rules levels 7 and 8).

ASSIGNMENT TWO… Sketch a fretboard diagram demonstrating the pattern and/or pattern combination used to perform assignment one and explain. Maybe it's your comfort-zone pattern? If so, why?

ASSIGNMENT THREE… "Song-of-the-Week." Do it! Record it! You've got **one week,** so make it perfect!

THE BOTTOM LINE… Develop the ability to hear the slight differences between Dorian, Phrygian, Aeolian, and Locrian scales. Try to determine which scale, if any, feels and sounds good to you. Go for your comfort-zone! Always strive to become a *thinking* musician, rather than one who randomly cranks-off pre-learned patterns, shapes, and phrases! It's not necessary to analyze everything you play, but you should understand music theories, devices, relationships, and concepts.

CHAPTER 22

More Major and Minor Tonality Scales

While literally hundreds of scales exist, I will examine only five additional scales. Although these remaining five scales are not widely used in today's music, there are, in fact, several diatonic chords derived from them which are used as chord substitutions. The *harmonic minor, melodic minor, diminished scale, Hungarian minor* (sometimes referred to as the *gypsy minor*), and *Japanese minor pentatonic* are all somewhat *minor* in sound due to the ♭3, and can be played over their harmonized *minor* scale. But, by substituting the relative *major* scale, these minor scale formulas could easily be transformed into *major* scales, and then played over their harmonized *major* scales. The effect of major and minor scales compared with their relative scales can sometimes be good, and sometimes not so good. The uniqueness of each and every scale should be experimented with and judged solely by you. It's your music and your decision!

Without correct chords to match specific scales, the true characteristics of a scale will never be realized. Radical Rules (levels 7 and 8) will cover optional systems geared for determining correct combinations of chords and scales. But, the uniqueness and value of a scale (and its matching harmonized scale) should be experimented with and judged solely by you. Again, it's your music!

These next five scales are minor in quality due to the ♭3. The chart below shows these scales by name, formula, and member notes. The key of C major is presented and altered to fit the specific formulas. All five scales can be played over the key of C minor. But, be aware that altered notes placed within some scales indicate that you will be slightly "outside" of the diatonic C minor scale. When played over the key of C minor (i.e. played over a *harmonized* C minor scale), these scales should be considered altered scales.

IMPORTANT Please note that this chordal approach to scales is an extremely simplified system, and does not fully exploit the unique sound of each scale. *Example 22-A* presents scale formulas *without* their matching harmonized scales. Without correctly matched harmonized scales, the characteristic sound of each scale will not be heard! (Check Radical Rules levels 7 and 8 for matching systems.)

Example 22-A:

Scale Names	Scale Formula	Scale Member Notes
Unaltered C Major Scale	Unaltered C Major Scale	Unaltered C Major Scale
C Major Scale	1-2-3-4-5-6-7	C-D-E-F-G-A-B
Altered C Major Scales	Altered C Major Scales	Altered C Major Scales
C Harmonic Minor	1-2-♭3-4-5-♭6-7	C-D-E♭-F-G-A♭-B
C Melodic Minor	1-2-♭3-4-5-6-7	C-D-E♭-F-G-A-B
C Diminished Scale	1-2-♭3-4-♭5-♭6-6-7	C-D-E♭-F-G♭-A♭-A-B
C Hungarian Minor (C gypsy minor)	1-2-♭3-♯4-5-♭6-7	C-D-E♭-F♯-G-A♭-B
C Japanese Minor Pentatonic	1-2-♭3-5-♭6	C-D-E♭-G-A♭
C Japanese Major Pentatonic	1-3-4-6-7	C-E-F-A-B

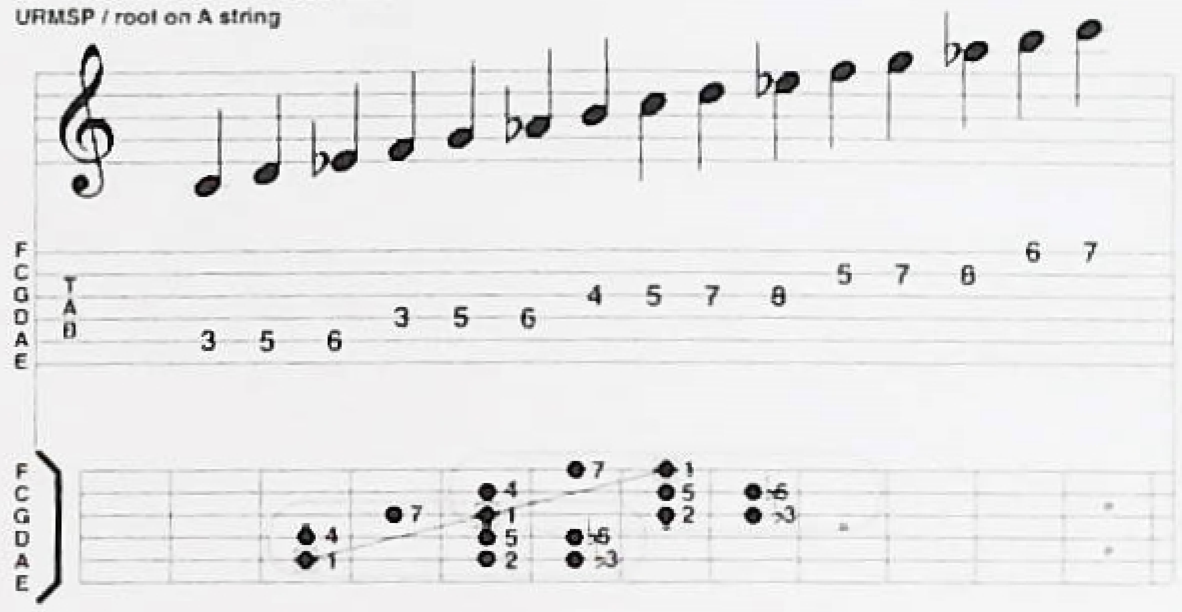
Note… The Japanese *major* pentatonic is also presented and compared to the Japanese *minor* pentatonic in order to demonstrate major/minor scale flexibility and usage. The key of C major is used and altered throughout both examples. Of course, the *major* pentatonic can be played over its harmonized *major* scale, and the *minor* pentatonic can be played over its harmonized *minor* scale.

The harmonic minor and melodic minor scales are not so popular today, but they were extremely common in the music of Mozart and Bach. Somewhat classical in sound, the harmonic minor scale has been re-popularized by guys like Uli Roth, Yngwie Malmsteen, and Paul Gilbert. The doomy diminished scale is a *symmetrical scale* because it's constructed entirely of intervals consistent in *distance* and *quality*. Its structure is whole-step / half-step / whole-step / half-step, etc.. The Hungarian minor scale and Japanese minor and major pentatonics are also available whenever you want to sound unique and/or *oriental*. ***To get the full characteristic impact of these and all scales, it's mandatory to combine scales with their matching harmonized scales.***

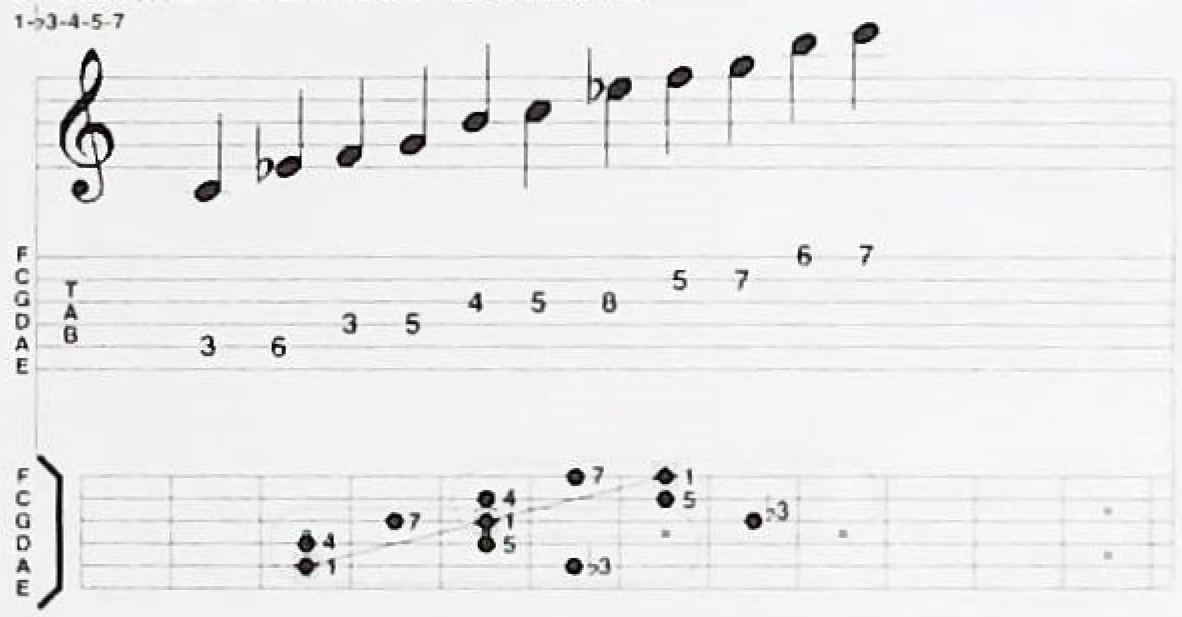
Example 22-B shows the C harmonic minor, C melodic minor, C diminished, C Hungarian minor (C gypsy minor), C Japanese minor pentatonic, and C Japanese major pentatonic scales based on the URMSP. My personalized pentatonics for these scales are demonstrated. Don't forget, in order to create a major or minor pentatonic, use the major or minor pentatonic formula as a guideline. Or, you can break the rules and create your own personalized five note pentatonic scales and patterns. Many different pentatonic formulas can and do exist.

Example 22-B:

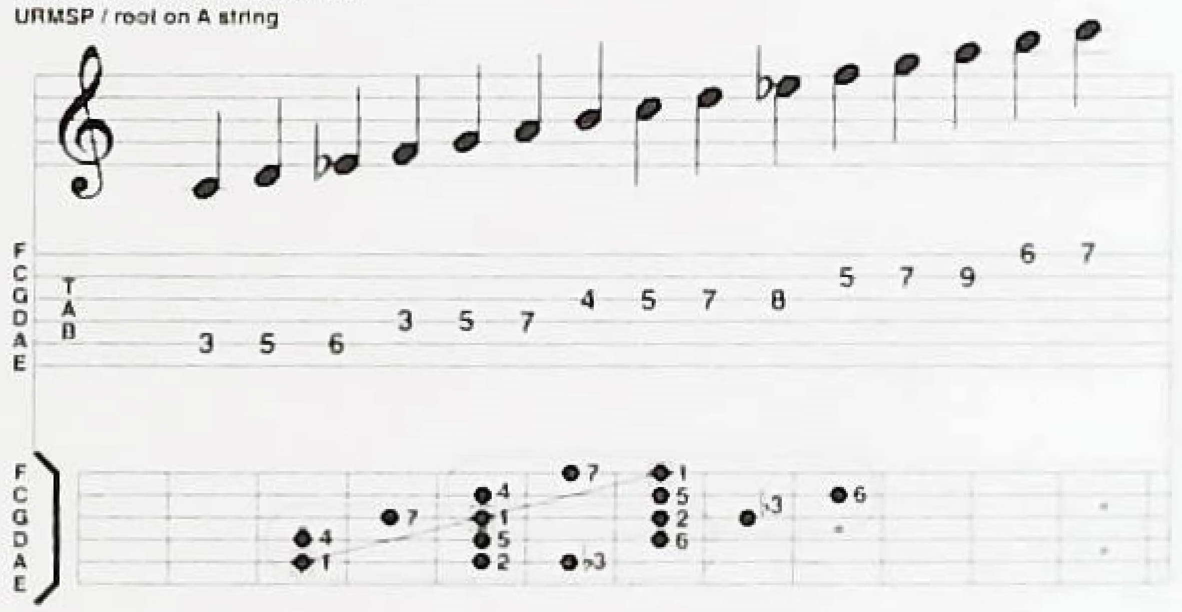
C Harmonic Minor
URMSP / root on A string



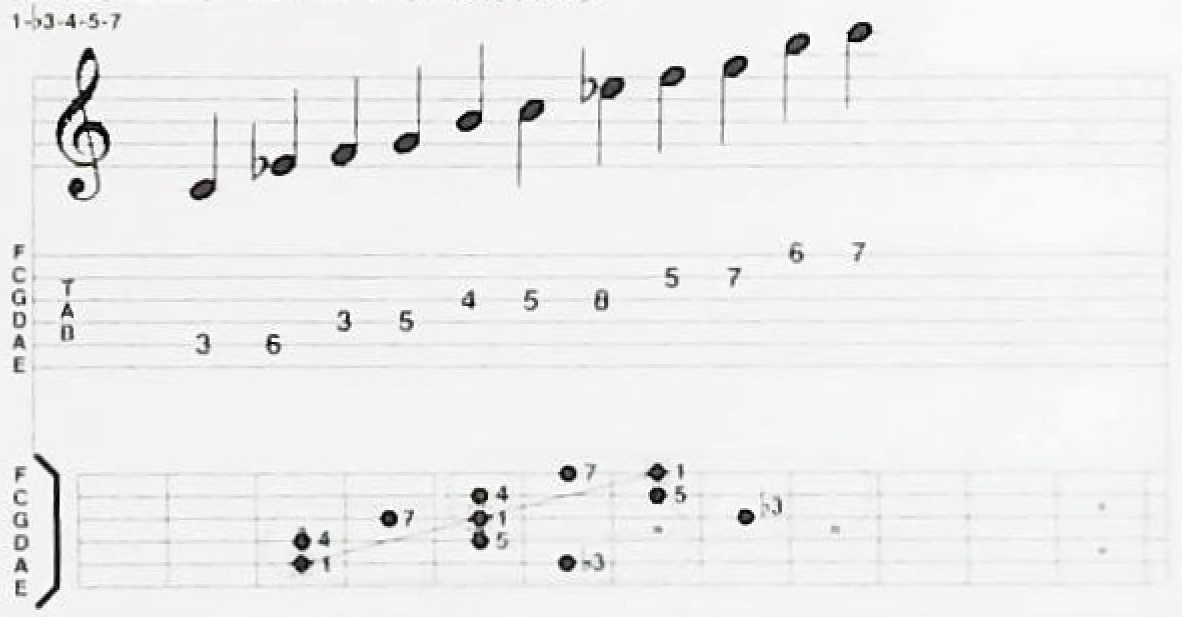
C Harmonic Minor Pentatonic
1-♭3-4-5-7



C Melodic Minor
URMSP / root on A string

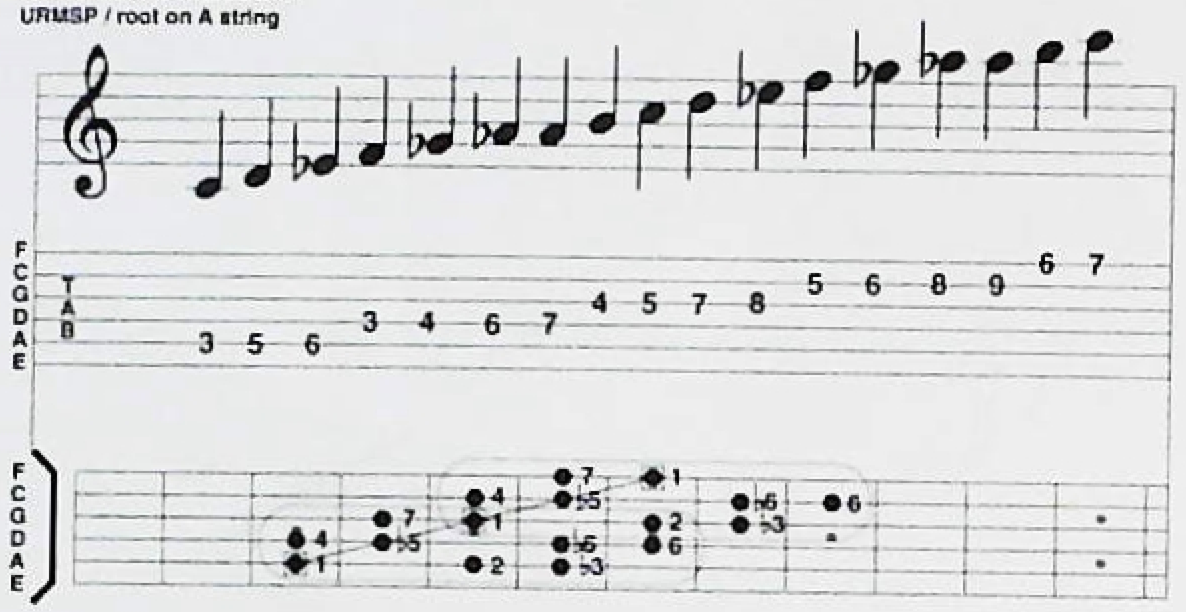


C Melodic Minor Pentatonic
1-♭3-4-5-7



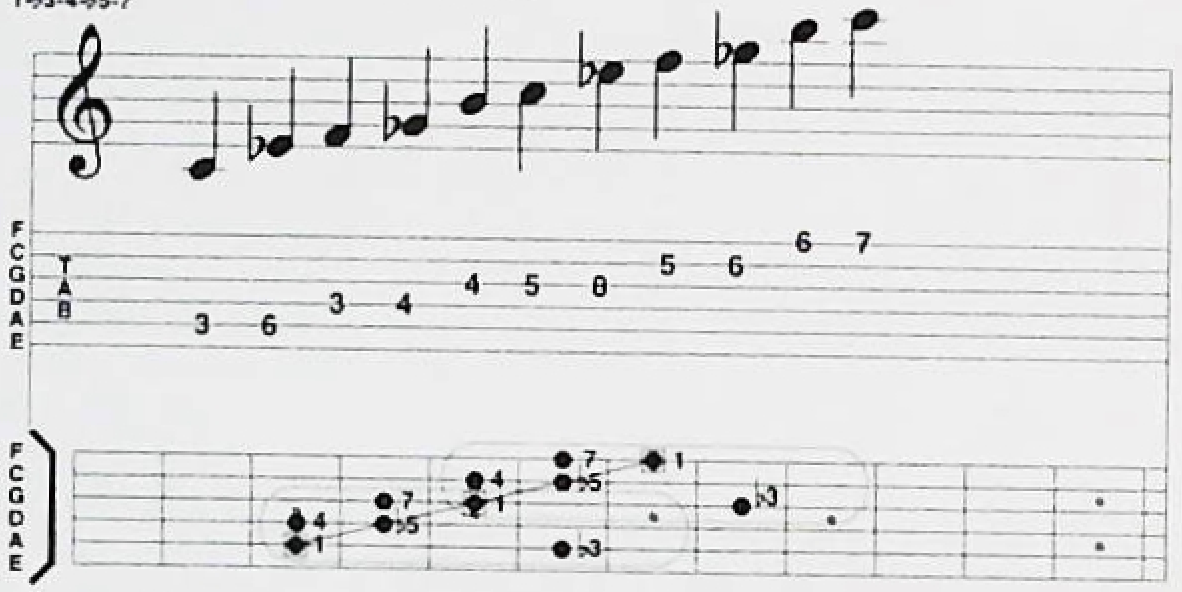
C Diminished

URMSP / root on A string



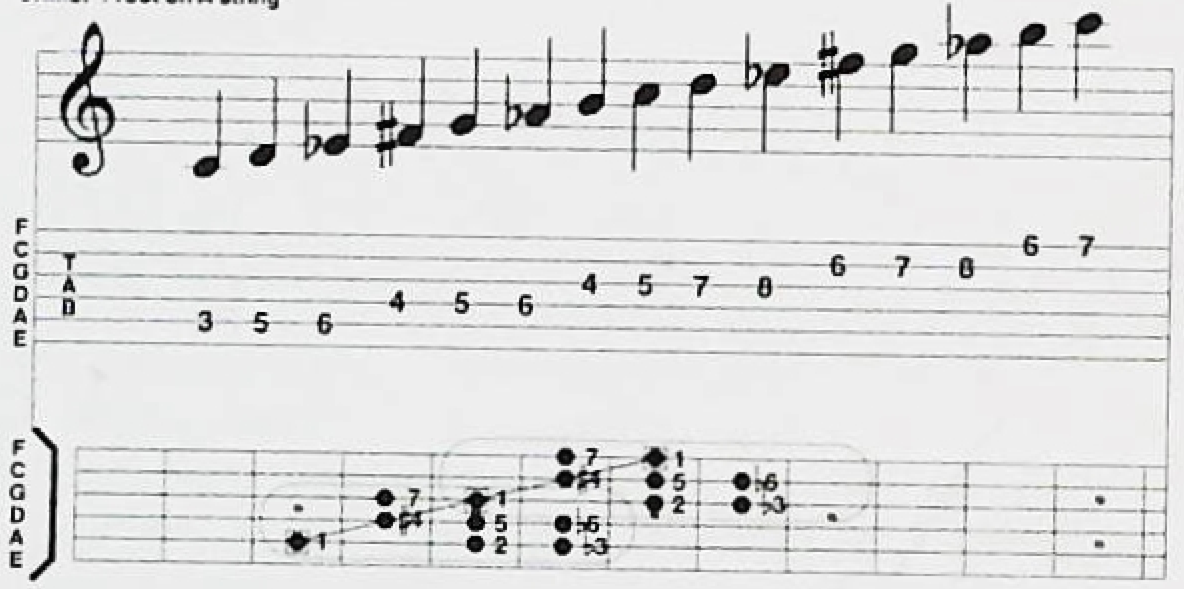
C Diminished Pentatonic

1-♭3-4-♭5-7



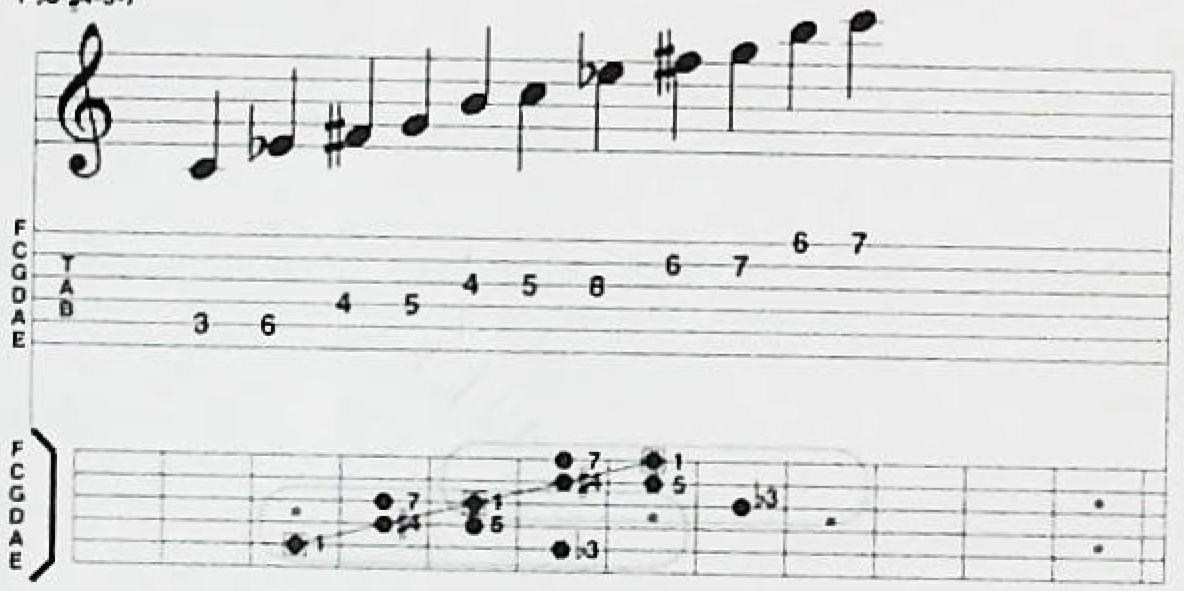
C Hungarian Minor

URMSP / root on A string



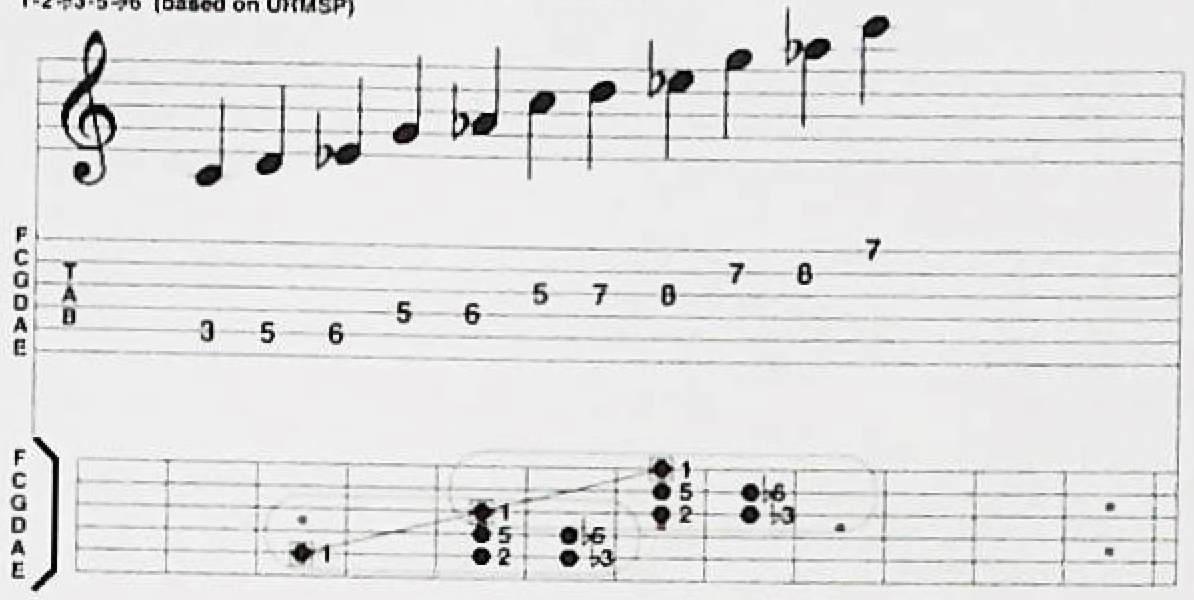
C Hungarian Minor Pentatonic

1-♭3-♯4-5-7



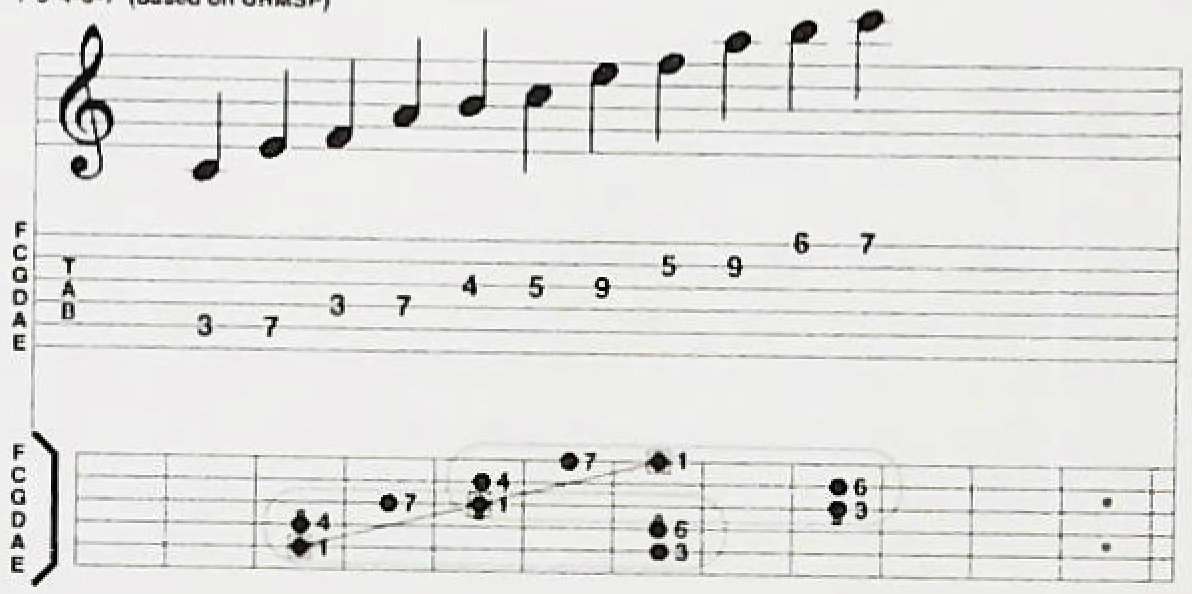
C Japanese Minor Pentatonic

1-2-♭3-5-♭6 (based on URMSP)



C Japanese Major Pentatonic

1-3-4-6-7 (based on URMSP)



Homework/Chapter 22

ASSIGNMENT ONE… Write one original song with lyrics in six versions. Song version number one should be based upon a C harmonic minor scale, song two should incorporate the C melodic minor scale, song three is the C diminished scale, song four is the C Hungarian minor (sometimes called *gypsy minor*), song five is the C Japanese minor pentatonic, and song version number six should demonstrate the C Japanese major pentatonic. For the chords in your song, I suggest the harmonized C *minor* scale for all *minor* scales, and the harmonized C *major* scale for the C Japanese *major* scale.

The standard leadsheet format should be used for melody, lyrics, and chords. Refer to Radical Rules (level 1) for leadsheet review if necessary. Don't forget, this is a simplified chordal system, and does not fully exploit the unique sound of each scale! Matching harmonized scales must be used in order to achieve the full characteristic sound of each scale. (Matching systems are in Radical Rules levels 7 and 8.)

ASSIGNMENT TWO… Draw a fretboard diagram demonstrating the patterns and/or pattern combinations used to perform assignment one, and explain why you have selected these shapes.

ASSIGNMENT THREE… The "Song-of-the-Week." Select a song and learn to play it! Repeat for **one week,** make it sound perfect!

ASSIGNMENT FOUR… Record the above assignments on a cassette. Analyze what's good and what's not so good with your performances.

ASSIGNMENT FIVE… It's review time! If you want to learn quickly and effectively, it's important to maintain contact with the outside world. ***Do not lock yourself in your room with your guitar!*** (It's never too late to join a band and/or teach guitar harmony, theory, and technique!) If you have not visited a local qualified music instructor this month, it's time to set-up a private lesson. The instructor can be a friend, music teacher in your neighborhood school, local musician, or choir director at your church. ***Outside "help" is required to reinforce all chapters found in this level!*** It's crucial to thoroughly understand everything found in the previous pages **before** moving-on to the next level. Don't "kid" yourself! If you sincerely want to be a guitar-god or songwriting tidal wave and earn a zillion bucks, go and get some *outside* assistance!

THE BOTTOM LINE… Be aware that many scales and pentatonics exist within the musical universe. Try to determine which scale, if any, feels and sounds good to you. Push the envelope and go for your comfort-zone!

IMPORTANT To increase speed and pursue speed-picking, it's mandatory to find a balance between *perfection* and *pushing-the-limit* Always set your metronome 5, 10 or 20 bpm higher than your best mm for a few minutes, and then return to a *no-mistakes* metronome speed (i.e. constantly flip-flop between these two speeds). Sure, you'll make mistakes and play somewhat out-of-control. But, you need to "push" yourself without losing sight of perfection if you want to develop higher picking speeds. **You need to *push the envelope!***

CHAPTER 23

Practice

To achieve the most benefit from hours of lonely practice, you need to prepare yourself for maximum creativity, inspiration, and learning. Scientific studies have determined various states of consciousness can be linked with brain-wave activity. For example, our normal awake-mode is in the *Beta range*. The brain produces frequencies of 13+ hertz (pulses or cycles per second) or more during this state. Relaxation and daydreaming are in the 9-12 hertz *Alpha range*. Various learning modes, borderline sleep zone, and creative thinking are experienced in the 4-8hz *Theta range*. Below this lies the Delta range of 1-3hz, produced during sleep. Also applying pressure to your body and brain is the earth's natural pulsing beat (called the *Schumann Resonance*), and is generated by a magnetic field at a specific frequency of 7.83 hertz. Everyone's minds are different, each has a specific learning speed. Once you are aware of brain-wave activity principles, you'll be able to accelerate the process of learning. Your brain is not only an information storage area, it's also designed for *thinking!*

Brain = Command Center

Most people acknowledge the concept of the brain having two discrete working areas or hemispheres in which to function. Area one is the *right side of the brain,* and is designated as the brain's creative zone. Area two is the *left side of the brain,* and is designated as the brain's reasoning and/or common sense zone. This area is responsible for daily functions such as counting numbers, and normally operates without concentrated effort. The key is to make use of the brain's right side. Creativity, relaxation, learning, fantasy, inspiration, and more are attributed to the brain's right side functions. Tapping this area of the brain is crucial to all creative people including doctors, artists, scientists, and musicians.

The left side always wants to repeat things already known. So, you need to turn the left side "off" and turn the right side "on." One method is to trick the brain. For example, when you begin to practice, start with a fret position never before used. This is something new and different, so the left side turns "off" and the right side turns "on." After a period of time, and if you really pursue the instrument, you'll develop the ability to play the guitar with your intuition and heart. At this time you'll be playing with both left and right sides working simultaneously.

Vitamins

So, you want to be a rock n' roll star? Maybe you just enjoy making music alone or with friends? Whatever the situation, you need to be in the best physical and mental condition possible. Like it or not, you have the responsibility to maintain your body's condition. Smoking, alcohol, and drugs do not support life! These three substances have a negative effect on your adrenal glands. As a matter of fact, vitamin A, B_1, B_6, B_{12}, folic acid, C vitamins, and the minerals magnesium and zinc in your body will be substantially reduced if these substances are consumed. Stress (which includes studying upper-level music theory and guitar technique), severe trauma, and illness also increase the body's need for essential nutrients, especially the B vitamins and vitamin C. Nutrients are passed through the intestinal wall into the blood and lymph system, where they are carried to individual cells to meet needs for energy, growth, and cell repair. Since many vitamins cannot be stored in the body efficiently, they must be replaced regularly.

If you get "into" vitamins, try to avoid *artificial* vitamins, which can be identified by breaking-open a vitamin tablet and discovering a white, powdery substance. Since vitamins are fragile and susceptible to damage (especially by light), they need to be *locked-in* and properly protected until consumed. Sure, artificial vitamins are usually less expensive. But, since their nutrients are typically not *locked-in,* the vitamin deteriorates and you consume a valueless tablet.

Some late-breaking news! Studies are now acknowledging the fact that *natural* vitamin C will extend the life span of the human male and human female by six years. So, if you guys and gals want to *shred* a little while longer on planet earth, latch-on to some natural vitamin C. (Just be sure it's authentic *natural* vitamin C!)

SECRETS B Complex and C vitamins are your life's blood! Reducing these vitamins in your system will affect all bodily functions. Memory retention, muscles, tendons, synchronization of left and right or fret and picking hands, eyesight, hearing, etc. –all are dependent on blood. Damaged blood produces damaged body parts. For example, 80% of everything a musician does involves some type of memorization. Damaging your memory retention abilities will definitely reduce your capabilities as a musician. So, work smart!

Lactic Acid = The Burn

Alpha Hydroxypropionic Acid or *Lactic Acid* exists in certain plant juices, in the blood and muscles of animals, and in the soil. In the normal individual, blood sugar concentration is held amazingly constant at about 80 mg. per 100 ml.. Whenever blood sugar drops below this concentration, the liver delivers more sugar to the blood stream by breaking down stored *glycogen*. Glycogen is the storage form of carbohydrate in the liver.

Muscles also store sugar as glycogen, but they cannot reconvert glycogen into blood sugar. Muscles actually degrade sugar in order to obtain energy for work. If the oxygen supply to the muscle is adequate, the sugar is completely oxidized into carbon dioxide and water. During vigorous exercise and high-speed guitar runs, oxygen is normally in short supply. In this situation, the glucose is converted to lactic acid which may be washed from the muscle and returned via the blood stream to the liver, where it is reconverted to glycogen. Sure, other body tissues use glucose, but muscle is the largest consumer.

So, what does this mean to the musician? Whenever you overuse muscles, a burning sensation can be felt. This "burn" is lactic acid. Early studies showed the muscles of animals killed after a hunt contained high levels of lactic acid. As a result, it was soon discovered that lactic acid is produced when using muscles at full speed. Blood flow washes away this acid only if and when your muscles are in a relaxed state. As a musician, you need to keep your muscles relaxed and free from acid. Guys and gals like Dan Huff, McLaughlin, Gambale, Vai, DiMeola, Gilbert, Malmsteen, Jennifer Batten, Shawn Lane and others have developed the endurance to make cranking through high-speed runs look extremely easy because they and their muscles are relaxed. They look relaxed because they are relaxed! If it's your desire to increase overall guitar horsepower, practice slow to build endurance. ***Relaxed muscle endurance is one major "key" to fretboard-frenzy high-speed runs!***

Daily Problems

The learning process has been intensely studied during past years. Since the beginning of time, people have been searching for easier and faster ways. And, it really makes no difference what it is as long as it's easier and faster. Great strides have been made in understanding and accelerating the process of learning.

One of the major areas attributed to learning *deceleration* is day to day problems. Below are a few techniques which have been proven to help minimize or eliminate problems which may interfere with the learning process. You must strive to achieve optimum practice conditions.

■ ***Example #1)*** You can't concentrate! You have a problem! Write the problem down, and go back another time to resolve it. Most problems require some type of *decision*. Electing to write it down, you have in actuality made a decision to *solve* the problem at a later date.

■ ***Example #2)*** Some metronomes have both sound (beeps or clicks) and a blinking light or L.E.D.. Practice with a metronome (metronome sound "off") in a dark room with the television "on." Watch the television to prevent boredom, and you'll see the reflection of the metronome's blinking light bouncing off of the TV. My favorite option is to watch television, connect my headphones to the headphone output jack on my metronome, and place only one headphone over one ear in order to continue listening to normal TV. The entire headphone is not placed directly over the ear because it's just too loud. Be aware that this type of television practice is suitable only when developing motor skills and repeatable sequences.

■ ***Example #3)*** There are two types of concentration:

A) *Active Mental Concentration* requires a great deal of high-level, focused mental concentration.
B) *Active Physical Concentration* requires a very small amount of physical concentration.

For example, take two radios, place one on the left and the other on the right side of your head, each playing a different station or program. Next, read and perform a piece of music while listening to the two radios. This is *focused* active mental concentration. Try this procedure 5-10 minutes a day for a few weeks to develop mental concentration.

■ ***Example #4)*** The length of one's practice time is crucial. Studies show that when you practice and learn, the time is divided into three segments... the beginning, middle, and end segments. The beginning and ending segments are retained in a person's memory, but the middle segment is typically unclear. So, keep your practice sessions short... maybe 45 minutes per session. Take at least a 5 minute break *before* continuing another practice session. By the way, memorization increases 200-300% when done about two hours *before* bedtime. This is due to the fact that it's probably the last event to occur in your day prior to sleep. Memorization also works best when food is not present in your stomach. Blood and oxygen travel from your brain and to your stomach while eating.

■ ***Example #5)*** Did you know that your brain and muscles have various forms of memory tissue? In fact, there are two types of memory. *Short term memory* is defined as repeating something 20-100 times in one day to remember it for that one day. *Long term memory* is defined as repeating something 20-100 times per day for 21-30 days. The act of *repetition* for 21-30 days results in the *dictionary concept*. That is, you will store a lot of "words" or guitar sequences, and develop a very fast retrieval system. You will then have the ability to grab any pre-learned guitar sequence almost at will. This is one of my favorite *proven* concepts, and is a very "cool" learning approach.

The Practice Schedule

Practice time should be divided into three levels of importance. The first and most difficult level is instrument technique, with emphasis on single string performance. The second most important level is ear-training. Theory makes up the last level of importance, and can be divided into physical practice (applied theory) and mental practice (books).

WEEKLY
PRACTICE SCHEDULE

Week Beginning Date: 12-30-90
Week Ending Date: 1-5-91

Topic	Time	MM	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Music Reading	10 min	40 mm half notes	x	Free Day	x	x	x	Free Day	x
Indian Rhythms	10 min	40 mm quarter notes	x		x	x	x		x
Four Note Chords with Chord Chart	15 min	40 mm whole notes	x		x	x	x		x
Triad Chords with Chord Chart	15 min	50 mm whole notes	x		x	x	x		x
Transcribe Song of the Week	30 min	82 mm quarter notes	x				x		x
Perform Song of the Week	30 min				x		x		x
Homework Assignment	10 min	46 mm quarter notes	x		x	x	x		x
Jam Tapes	10 min		x			x	x		x
Repertoire	20 min		x		x	x	x		x
Groups of 3 Sequence	30 min	70 mm 16th notes	x		x	x	x		x
Groups of 4 Sequence	30 min		x		x	x	x		x
1-2-1 Interval Sequence	30 min	55 mm 16th notes	x		x	x	x		x
2-1-2 Interval Sequence	30 min		x		x	x	x		x
Octave Sequence	30 min	85 mm 16th notes	x		x	x	x		x
Interval Sequence in 3rds	30 min	45 mm 16th notes	x		x	x	x		x
Interval Sequence in 4ths	30 min		x		x	x	x		x
Total Hours	6 hours		5.5	Free Day	5.3	5	6	Free Day	6

A musician's job includes practice. As long as you pursue life as a musician, you must practice. Keeping the instrument "in-your-hands" is one trick to mastering the guitar. The chart in this section shows a typical six-hour-per-day weekly practice schedule. (By the way, this six hour schedule was my personal weekly practice timetable.) Six to ten hours per day, five days per week for ten consecutive months of intensive, highly-focused practice if you want to be a guitar *monster* –an hour or so each day, five days per week when your goal is to be a *play-for-fun* player is a good rule of thumb.

Topic, length of time, metronome speed, and days are all shown in the weekly practice schedule. The *Party Plan* is five practice days and two "R & R" (rest and relaxation) days per week. This is a good timetable in order to allow muscles and brain the chance to relax and build strength, because the body requires time to sort-through and store information. Keep a daily log of your times by checking-off each completed topic. This will help to gauge your progress. By the way, it's your job to determine where you want to be in one week, one month, and one year with your instrument. To help achieve these goals, you must develop a suitable practice schedule. Feel free to change your topics and time frames whenever necessary.

You will see topics like "repertoire" and "jam tapes" listed in the practice schedule. These are similar to the "Song-of-the-Week" in that you are encouraged to learn the things you want to learn. Repertoire are things you find exciting (solos, tricks, etc.), and would like to use or show-off in your music. Jam tapes allow you to play along, try out freshly-learned info, and jam with a real "live" band or rhythm section. I highly recommend building a repertoire from songs, and discourage the use of lick-and-trick videos and cassette tapes. These video and audio cassettes show some really great solos and tricks, but very few demonstrate their musical effectiveness or usage. You'll only end up with a lot of great solos, and no place to use them. So, do yourself and your wallet a favor by not purchasing lick-and-trick tapes. Grab your favorite songs and solos, and *burn* them in. Songs are your guarantee for developing awesome guitar technique and a fantastic repertoire.

IMPORTANT It's crucial to have an instructor occasionally "watch" while practicing to verify that you are indeed practicing correctly. ***It takes 45-55 days to deprogram bad info, and then another 21-30 days to reprogram long-term memory.*** To learn quickly and efficiently, do yourself a favor and get a little "outside" help.

Mind Machines

Do you sometimes feel as if you're mentally not able to *really* develop the concentration, coordination and confidence needed to achieve optimum practice conditions and/or results? Maybe your brain needs a tune-up? Hey, don't laugh! Reaching a drug-free altered state via mental stimulation has been scientifically proven to be a viable solution for enriching brain-wave activity. As a matter of fact, accessing one's Alpha and Theta brain-wave patterns is as easy as pushing a button. Through the use of light and sound stimuli, some high-tech American companies have developed low-cost micro-electronic *mind machines.* Units featuring twelve or more preset programs are best buys for "targeting" specific brain-wave activity. User programmable units are the ultimate mind machines and are awesome, but they are also more expensive. My personal choice for mind machines are units similar to the *MasterMind/24™ Mental Fitness System* with twenty-four preset programs and the *MindsEye Plus™* featuring user programmability. These little babies are capable of providing *sessions* for deep relaxation, super-learning, creative thinking, stress relief, heightened mental clarity, and more. Hey, not all minds are created equal… but it is possible to make improvements!

MasterMind/24™

WARNING! Mind machines should not be used by persons with a history of epilepsy or any form of brain seizure.

Homework/Chapter 23

ASSIGNMENT ONE… Write your goals as a musician on a piece of paper, and develop a weekly practice schedule to achieve these goals. Gauge your progress by checking the increase in your metronome speeds.

ASSIGNMENT TWO… "Song-of-the-Week." *Transcribe* and analyze the melody and/or solo section for **one week.**

THE BOTTOM LINE… Always use portions of solos and/or complete songs or solos to build your repertoire, technique, ears, and creativity. It's advantageous to know what has gone on before, and then to build on this knowledge.

IMPORTANT The key word is *organization.* There are so many things to do during the course of a day, so don't waste any time. Your practice schedule should be specific and focused. Decide on a goal for each and every practice session, such as memorizing a new harmonized scale or pentatonic pattern. Fifteen minutes of focused practice time is much better than four to six hours of directionless jamming. ***The only sure thing that will guarantee results is PRACTICE!***

IMPORTANT Always practice in a private and secluded area with the same guitar tone as your intended performance! Never practice within earshot of other people! The pressure of trying to impress an audience during critical practice sessions should be avoided at all costs.

CHAPTER 24 "CHOP SHOP"
1-2-1 + 2-1-2

This is what I personally consider the meat and potatoes of high-speed soloing. *Modular sequences* are definitely my favorite lethal-speed weapons for soloing. And, don't forget… the word "modular" means plugging-in to any major (or minor) key center. Soloing consists of four options: *octaves, groups, intervals,* and *arpeggios.* But, I must warn you… I'm not a very big fan of arpeggios. For what it's worth, "arps" are highly used and recommended by many top pros. But, for me, *arps* are just too mechanically common. Professionals seem to crank-off arpeggios because they typically consist of chord tones (scale degrees) 1-3-5-7-9-11-13, both altered and unaltered. Since pros already know scale degree locations, there's nothing new to learn. Hey, if you take the time to learn the location of the scale degrees, any pattern can be pre-learned and repeated to build speed by *repetition.* Sound familiar? I prefer to go for the first three soloing options (octaves, groups, and intervals) because they sound "cooler" than arps. By creating a few very simple mathematical sequences in conjunction with these options, you can sound like a seasoned pro in a very short period of time.

Interval Sequences

The first sequences to master are the *killer* 1-2-1 and 2-1-2 sequences. The numbers 1-2-1 and 2-1-2 indicate intervals. That is, 1 is one of the low notes in a diatonic scale and 2 is the next highest note or interval. When you play the 1-2-1 sequence, you must play 1, play 2, and return to play 1. The next step when playing up-the-scale is to increase each note value by one. If this is your first time with sequences, you can quickly and easily become lost. So, always *think* the sequence formula. For example, as you play through the 1-2-1 sequence, think to yourself 1-2-1, 1-2-1, 1-2-1, etc. Of course, only diatonic scale notes are permitted.

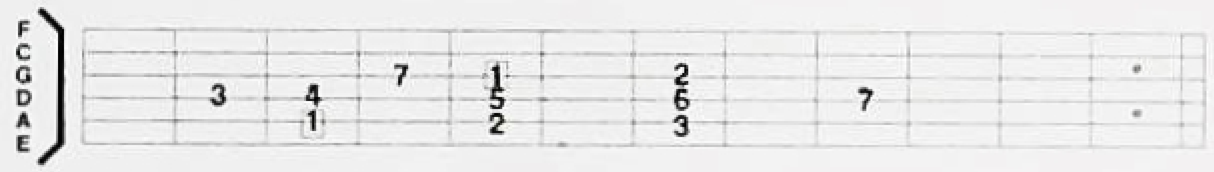
I use major scale pattern combinations (one pattern up-the-scale, and a different pattern down-the-scale) for the 1-2-1 and 2-1-2 interval sequences to efficiently alternate pick each note without stopping to reverse picking direction and/or jump strings. My pick is always travelling in the direction to pick the next sequenced note. I do not need to stop, reverse picking direction, and jump over or skip strings in order to pick the next sequenced note. I prefer to call this maximum usage of picking motion as *proper direction picking*. You'll need to examine all sequences to determine a pattern or pattern combination which will allow for both your personal comfort-zone and high-efficiency picking. As usual, my favorite patterns are shown in this chapter.

Example 24-A shows the C major scale pattern combination used for the 1-2-1 interval sequence. *Example 24-B* demos the C major scale pattern combination used for the 2-1-2 interval sequence. *Example 24-C* presents notation and TAB for the 1-2-1 interval sequence, and *example 24-D* shows notation and TAB for the 2-1-2 interval sequence. Burn-in this pattern combination, alternate picking sequence, and fingerings at ultra-slow speeds. And, be careful with those finger stretches! Your *working speed* goal should be 120mm in sixteenth notes. But, if laser-light speed is to be your destiny, I highly recommend going for 165mm in sixteenth notes. The major scale pattern combination below are extended versions of my personal favorite URMSP.

Example 24-A:

Pattern Combination for 1-2-1 Interval Sequence

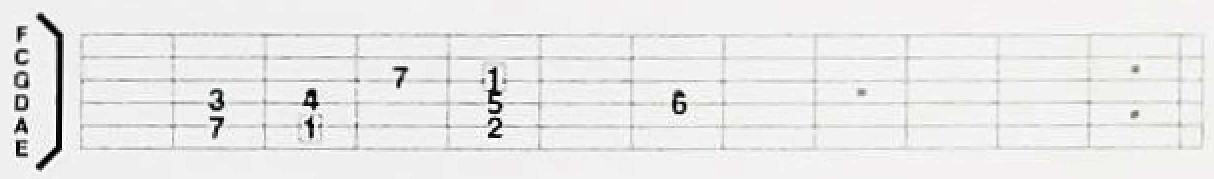
key of C major



Example 24-B:

Pattern Combination for 2-1-2 Interval Sequence

key of C major



IMPORTANT Don't forget to check *proper direction picking* during all sequences. It will be extremely slow at first, but doing so will speed your sequence practice results immensely. You won't be disappointed! If your "into" vibrato, be sure to use an extremely wide and slow vibrato in order to create a very emotional sound. A vibrato width distance of 1/2 step, or even a whole step, can be very addictive. Focus on *feel* rather than technique.

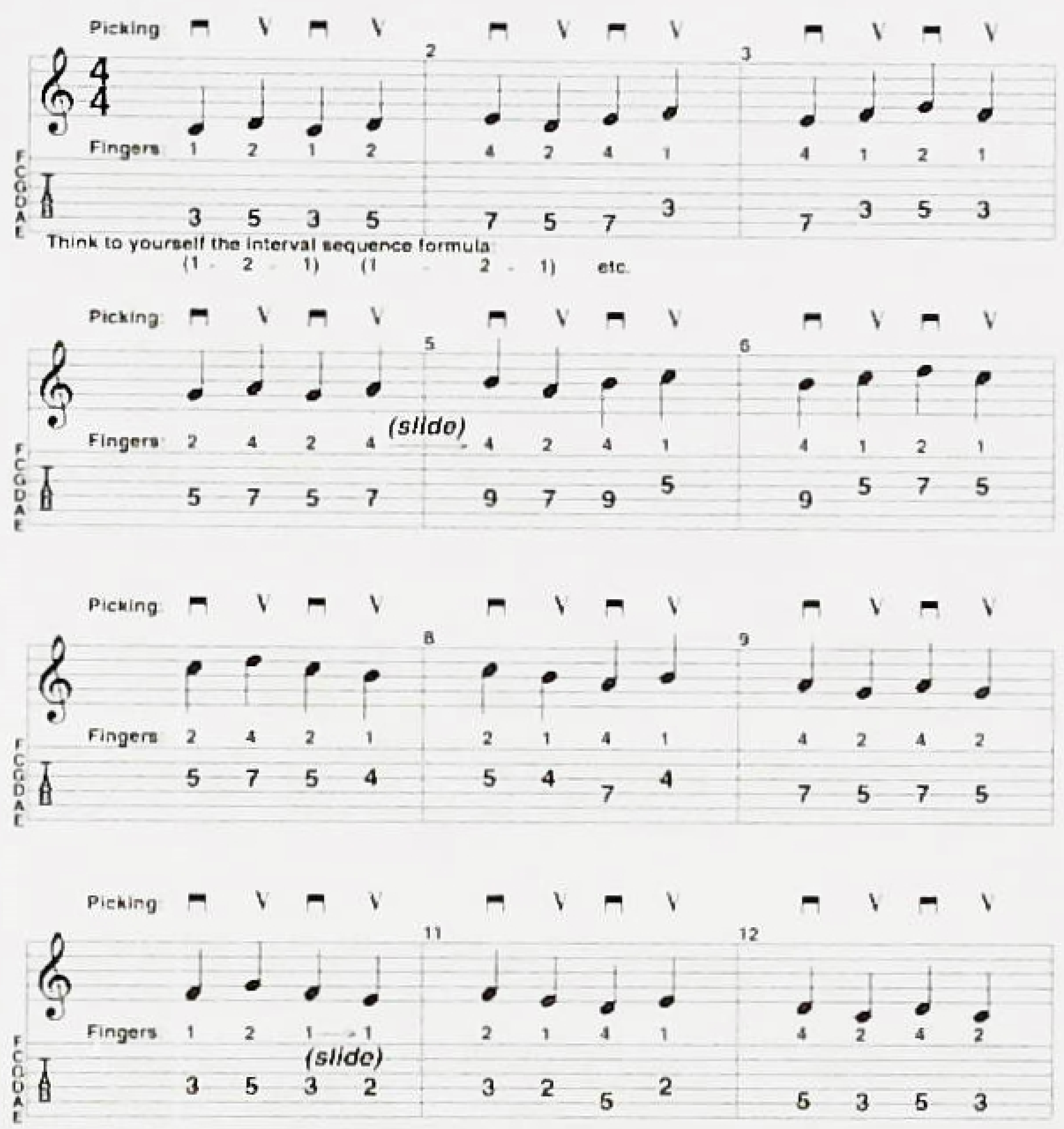
IMPORTANT 1-2-1 and 2-1-2 interval sequences start with downstrokes in order to maintain *proper direction picking*. My picking motion tends to follow the upbeat and downbeat rhythms in music. That is, I always seem to begin my playing with a downstroke in order to maintain this type of downstroke/downbeat relationship. Some "hot" players like Jeff Watson (Night Ranger) begin all of their solos with an upstroke (i.e. this upstroke/downbeat relationship reflects the left side/right side of the brain concept). The choice is yours!

IMPORTANT Always set your metronome 5, 10 or 20 bpm higher than your best mm for a few minutes, and then return to a *no-mistakes* metronome speed (i.e. constantly flip-flop between these two speeds). "Push" yourself without losing sight of perfection if you want to develop higher picking speeds. **You need to *push the envelope!***

Example 24-C:

1-2-1 Interval Sequence

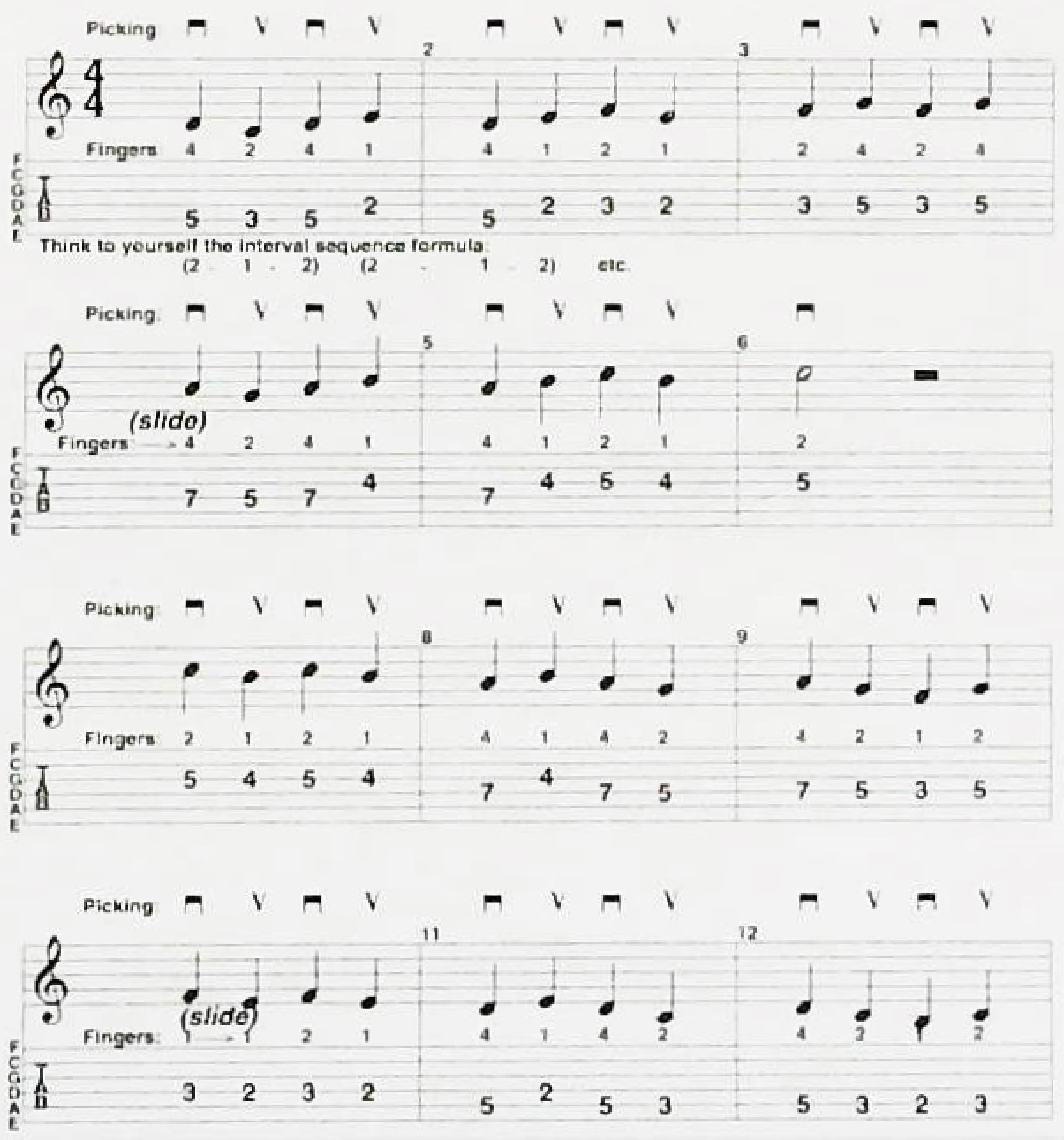
key of C major


Picking
Fingers
Think to yourself the interval sequence formula
(1 - 2 - 1) (1 - 2 - 1) etc.
(slide)
2
3
5
6
8
9
11
12

Example 24-D:

2-1-2 Interval Sequence

key of C major


Picking
Fingers
Think to yourself the interval sequence formula
(2 - 1 - 2) (2 - 1 - 2) etc.
(slide)
2
3
5
6
8
9
11
12

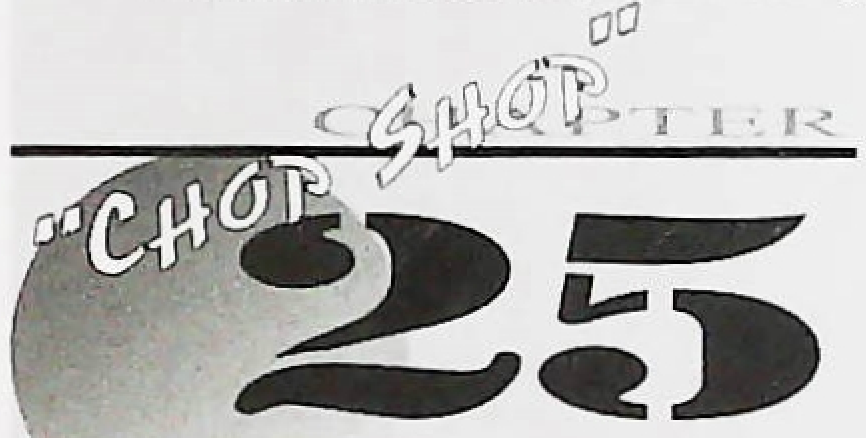
Homework/Chapter 24

ASSIGNMENT ONE... Develop the ability to cruise through 1-2-1 / 2-1-2 interval sequences in your sleep.

ASSIGNMENT TWO... Squeeze both sequences into a song as a chord fill and as a segment of the solo section. Hey, these sequences will tend to sound somewhat mechanical if you only go up and down the octave. It's just as easy to only play portions of *example 23-C* and/or *example 23-D* in "time" with the music in order to create devastating fills and solos. You don't even need to begin or end with the root of a scale! Just don't forget to use diatonic scale notes.

ASSIGNMENT THREE... "Song-of-the-Week." Do it! Record it!

THE BOTTOM LINE... Sequences will get your alternate picking and speed happening in a very short period of time. They're very easy to master due to the *repetition,* and you'll impress yourself and your friends with balls-to-the-wall 1-2-1 and 2-1-2 fills and solos if you practice. Sequences sound *totally* bitchin' when reaching speeds over 120mm in sixteenth notes. (Repeat above assignments for **one week.**)



CHAPTER 25

Octaves

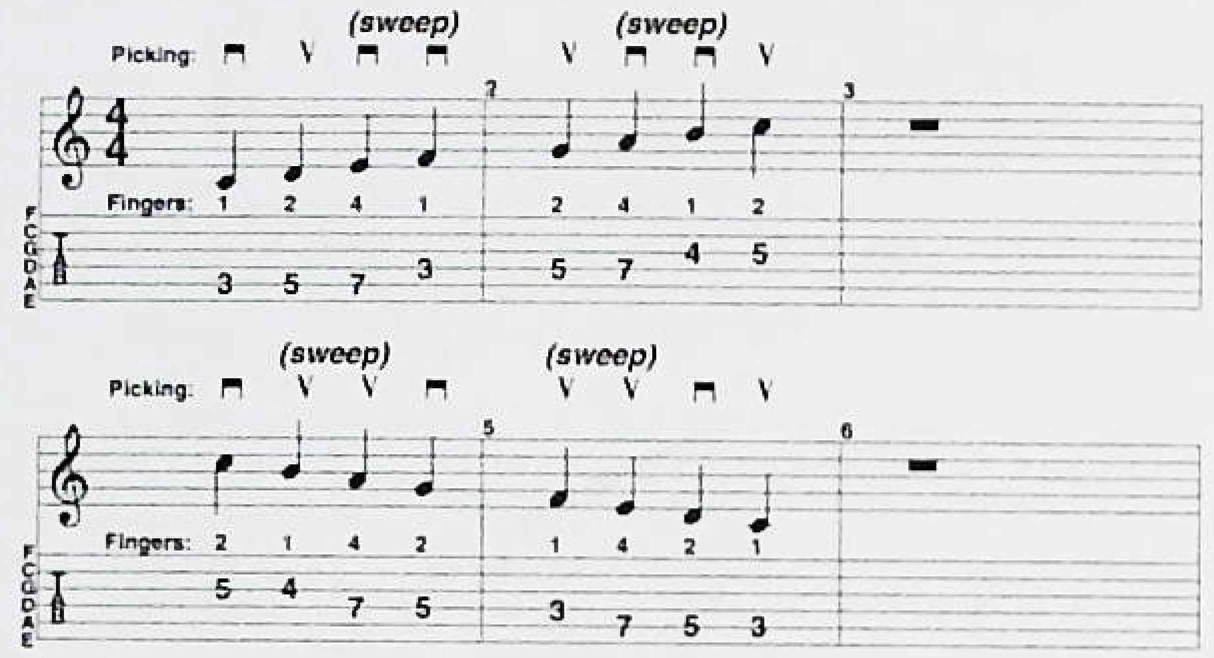
Sequences consisting of an octave up-the-scale and/or down-the-scale are referred to as *octave sequences*. As with all sequence patterns, diatonic scales are used and sound best at the *working speed* of 120mm in sixteenth notes. 165mm with sixteenth notes should be your goal if speed-playing is prescribed by your doctor.

The notation and TAB in *example 25-A* show the C major URMSP played with a picking technique called *sweep picking* or *economy picking*. This technique involves two or more notes on adjacent strings with one stroke of the pick. Sweep picking is used by loads of hot players because it produces lots of speed. Plus, it makes your sound super-smooth with a touch of *legato*. Alternate picking, the exact opposite of sweeping, tends to sound more choppy and aggressive. Sweeping includes articulating with the frethand (i.e. lifting-up one finger or fretting one note at a time) and/or muting with your picking-hand so only one note sounds. Check-out Frank Gambale's sweep picking video and witness extremely fast playing with very little hand motion. He really is king of blazing shred passages and plays fusion for the next millennium. Be sure to duck because his notes come at you like 9mm bullets –fast, furious, and lots of them. By the way, Frank is the "thunder from down under" guitarist for Chick Corea's electric band.

IMPORTANT To sweep or not to sweep? Sweep picking or economy picking feels different than alternate picking because you don't have the up-down picking motion associated with alternate picking. This up-down motion creates the clock necessary to establish "time." While sweeping doesn't have a clocking or timing "feel", the advantages of ultra-speed and smooth-attack create an impressive sound. Try to develop the ability to cruise through octave sequences in your sleep. They're great for impressing friends when long-run, bursts-of-speed octave fills and solos are required. Go for sweep picking if you want to reduce hand motion. (Don't forget to check *proper direction picking* during all sequences.)

Example 25-A:

Octave Sequence with Sweep
key of C major



Homework/Chapter 25

ASSIGNMENT ONE... Squeeze the octave sequence into a song as a chord fill and as a segment of the solo section. Play the sequence using your comfort-zone pattern or pattern combination.

ASSIGNMENT TWO... "Song-of-the-Week." No excuses!

THE BOTTOM LINE... Experiment with the sweep picking technique. Could it be your new picking style? Sweeping can also be mixed with alternate picking, *hammers*, and *pulls* whenever different textures are required. (Repeat and record above assignments for **one week.**)

"CHOP SHOP" CHAPTER 26

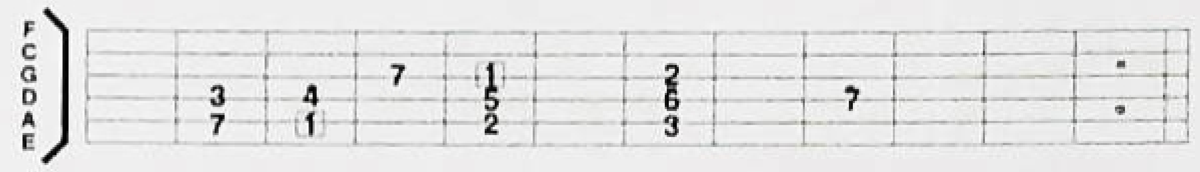
Groups

In 20th century music, *groups* are bunches of sequenced notes used to liquidate listeners by utilizing rapid-fire repeating segments. I prefer *groups of 3* and *groups of 4* over tricks because they're easy to master and sound like shredding-heaven. Groups of 3 can be played as triplets, or as normal rhythmic *devices* such as eighth and sixteenth notes. Both variations sound awesome, and are completely different from one another. Groups of 4 are more common, but just as deadly. *Working speeds* over 120mm in sixteenth notes give group sequences a very eloquent sound. In addition, groups are great musical devices for ascending and descending on strings.

Example 26-A shows the C major scale pattern combination used for groups of 3 sequences. This major scale pattern combination is an extended version of my favorite URMSP. (The same pattern combination is used for the 1-2-1 interval sequence.) *Example 26-B* demos groups of 3 in C major with notation and TAB. Groups of 3 uses alternate picking, so be sure to check *proper direction picking!*

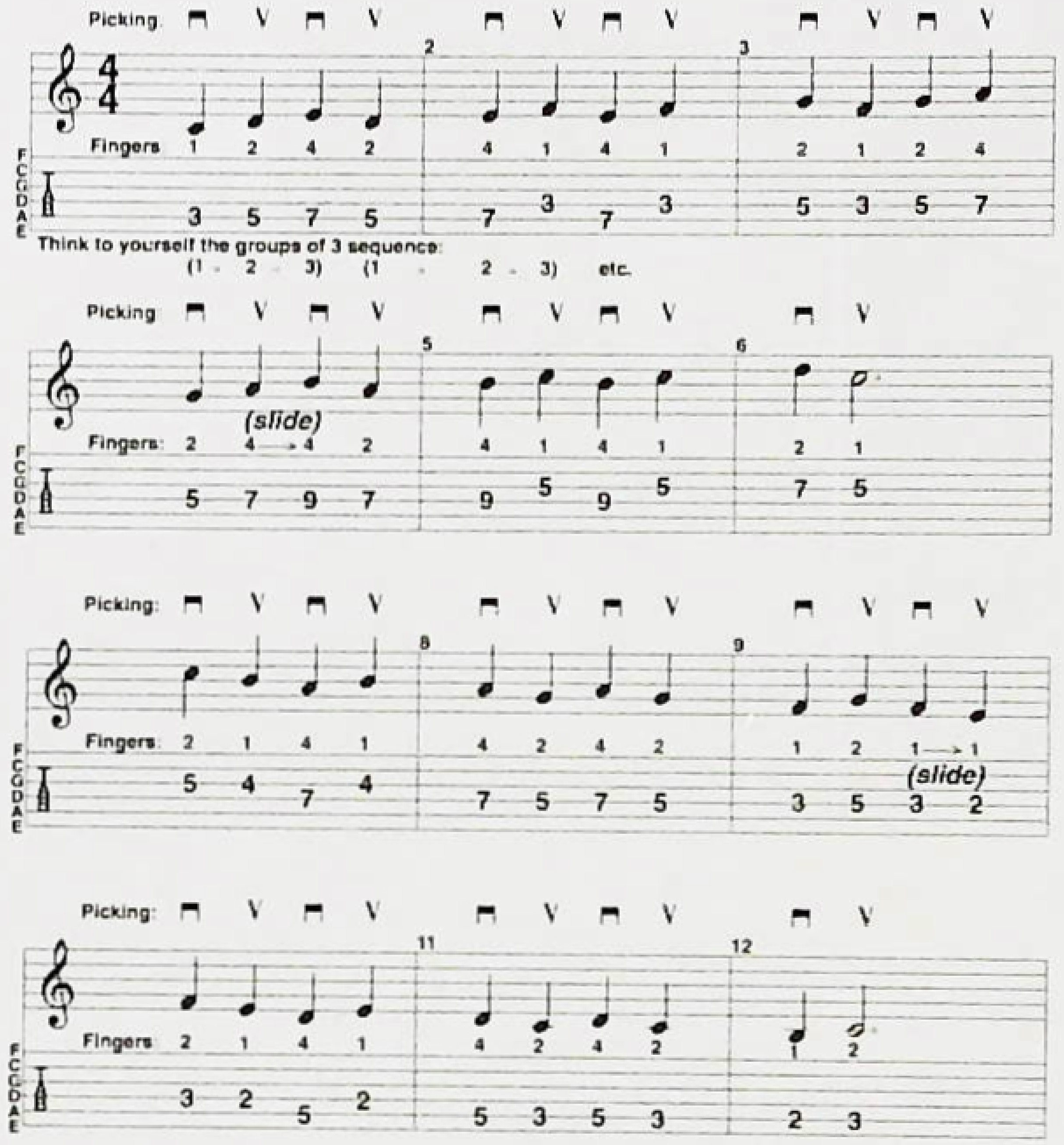
Example 26-A:

Pattern Combination for Groups of 3
key of C major



Example 26-B:

Groups of 3
key of C major

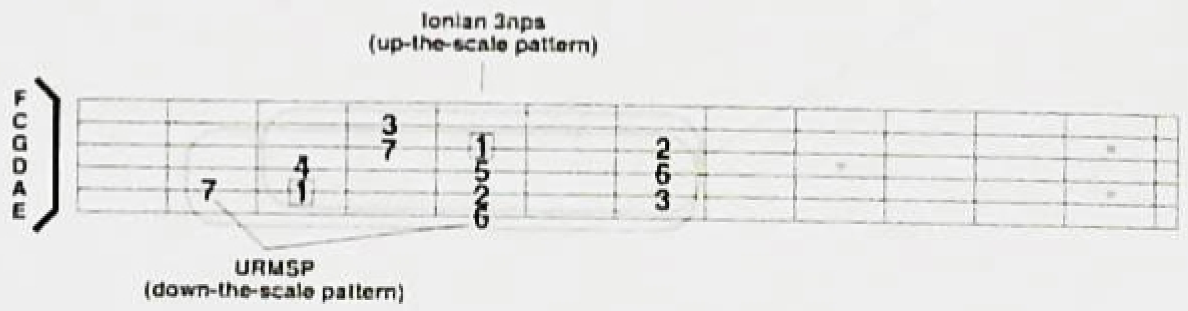


Think to yourself the groups of 3 sequence:
(1 2 3) (1 2 3) etc.

Example 26-C shows a fretboard diagram depicting the C major scale pattern combination used in the groups of 4 sequence. The Ionian 3nps is the major scale pattern up-the-scale, and the URMSP is the major scale pattern played down-the-scale. As with groups of 3, groups of 4 combines four notes of a diatonic scale, and arranges them to be played in a predetermined mathematical sequence.

Example 26-C:

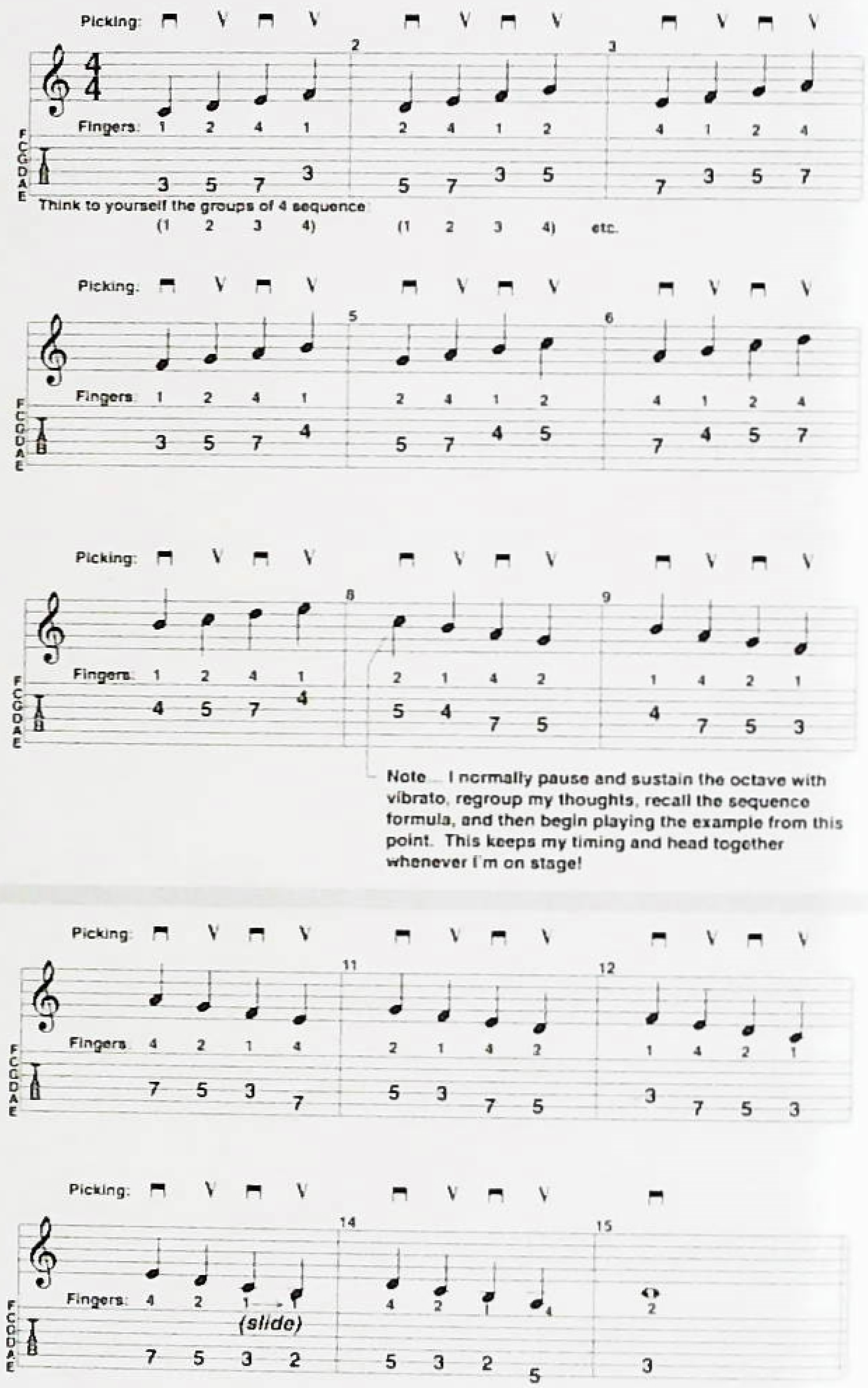
Pattern Combination for Groups of 4
key of C major



Example 26-D demonstrates groups of 4 in the key of C major. Check the picking direction on the second beat in measure 2 and the second beat in measure 5. The picking direction is traveling in the opposite direction *away* from the next designated sequence note. This breaks the *proper direction picking* method, and forces you to stop, reverse picking direction, power-through a muted string with your pick, or jump over the string to prevent the string from sounding, and pick the next designated string and note. Sometimes it's necessary to power-through or "jump" strings without utilizing *proper direction picking* in order to get to the next targeted note and maintain the alternate picking technique.

Example 26-D:

Groups of 4
key of C major



Think to yourself the groups of 4 sequence
(1 2 3 4) (1 2 3 4) etc.

Note... I normally pause and sustain the octave with vibrato, regroup my thoughts, recall the sequence formula, and then begin playing the example from this point. This keeps my timing and head together whenever I'm on stage!

Homework/Chapter 26

ASSIGNMENT ONE… Perform groups of 3 and 4 by *singing* aloud the group sequence formula as you play through *examples 26-B* and *26-D* with your instrument. Singing is still one of the best approaches for ear-training and scale degree and interval recognition. As usual, record and analyze for **one week.**

ASSIGNMENT TWO… Squeeze both group sequences into a song as both a chord fill and as a segment of the solo section. Play the sequence using your comfort-zone pattern or pattern combination. Don't forget to check *proper direction picking* during all sequences.

ASSIGNMENT THREE… "Song-of-the-Week." Do it!

THE BOTTOM LINE… Groups are great musical devices for ascending and descending on strings. They're really great for blowing-away the competition when long-run, rapid-fire type licks are needed. Their purpose is to produce a flat-out scream that will wake the dead.

IMPORTANT To increase speed and pursue speed-picking, it's mandatory to find a balance between *perfection* and *pushing-the-limit.* Always set your metronome 5, 10 or 20 bpm higher than your best mm for a few minutes, and then return to a *no-mistakes* metronome speed (i.e. constantly flip-flop between these two speeds). Sure, you'll make mistakes and play somewhat out-of-control. But, you need to "push" yourself without losing sight of perfection if you want to develop higher picking speeds. **You need to *push the envelope!***

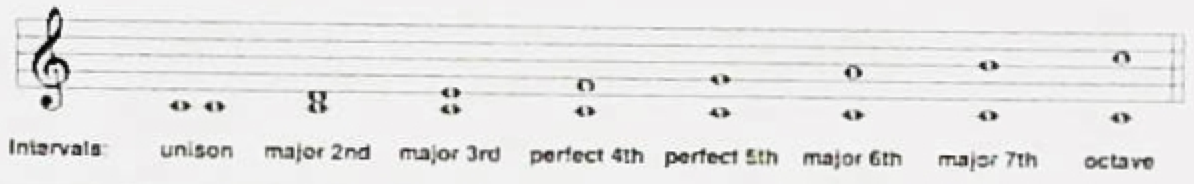
"CHOP SHOP" CHAPTER 27
Intervals

Predetermined sequenced notes using intervals of a diatonic scale are classified as *interval sequences.* They have a very sophisticated sound due to the mathematical approach of diatonic intervals. Intervals are traditionally played *in-position.* That is, they are performed up-the-scale and down-the-scale using the *same* major scale pattern. To maintain pattern integrity, pattern combinations are not used. *Proper direction picking* is not normally considered during interval sequences.

The distance between two notes is called an *interval. Example 27-A* demos intervals 1 thru 8 with notation to show the physical distance between specific notes. *Example 27-B* shows the C Ionian 3nps pattern used for interval sequences in 3rds and interval sequences in 4ths. It's also possible to play interval sequences in 5ths, 6ths, 7ths, and octaves. But, I personally prefer narrow intervals such as 3rds and 4ths. As a matter of fact, my personal soloing style consists of close-distance notes such as sequences 1-2-1, 2-1-2, 1-2-3-4-5-6-7-8, 1-2-3, and 1-2-3-4. Close-distance notes and/or narrow intervals sound more mainstream.

Example 27-A:

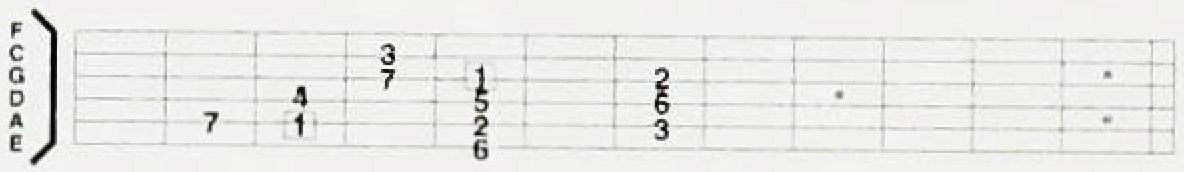
Key of C Major	Distance	Interval	Formula Number (scale degree)
C	Root	————	1
C to D	Root to 2nd Degree	major second	2
C to E	Root to 3rd Degree	major third	3
C to F	Root to 4th Degree	perfect fourth	4
C to G	Root to 5th Degree	perfect fifth	5
C to A	Root to 6th Degree	major sixth	6
C to B	Root to 7th Degree	major seventh	7



Example 27-B:

Ionian 3nps Pattern for Interval Sequences in 3rds and 4ths

key of C major

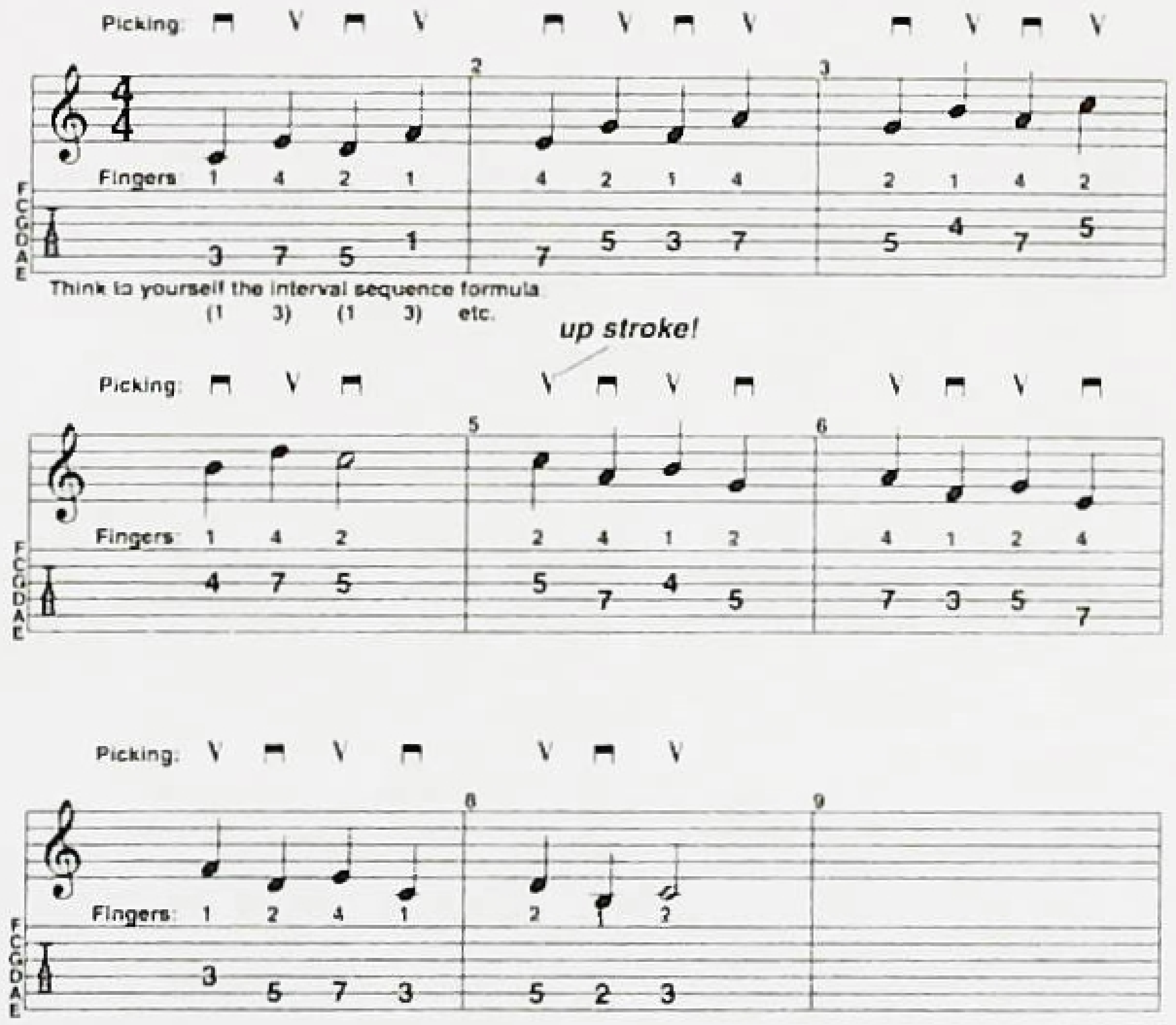


Example 27-C demos interval sequences in 3rds, and *example 27-D* in 4ths. Both examples are in C major, and show notation and TAB. Alternate picking is used throughout the sequence, so be sure to use *proper direction picking* whenever and wherever possible. With some rearranging of notes, and through the use of pattern combinations, sweep picking could also be used. It's up to you!

Example 27-C:

Interval Sequence in 3rds

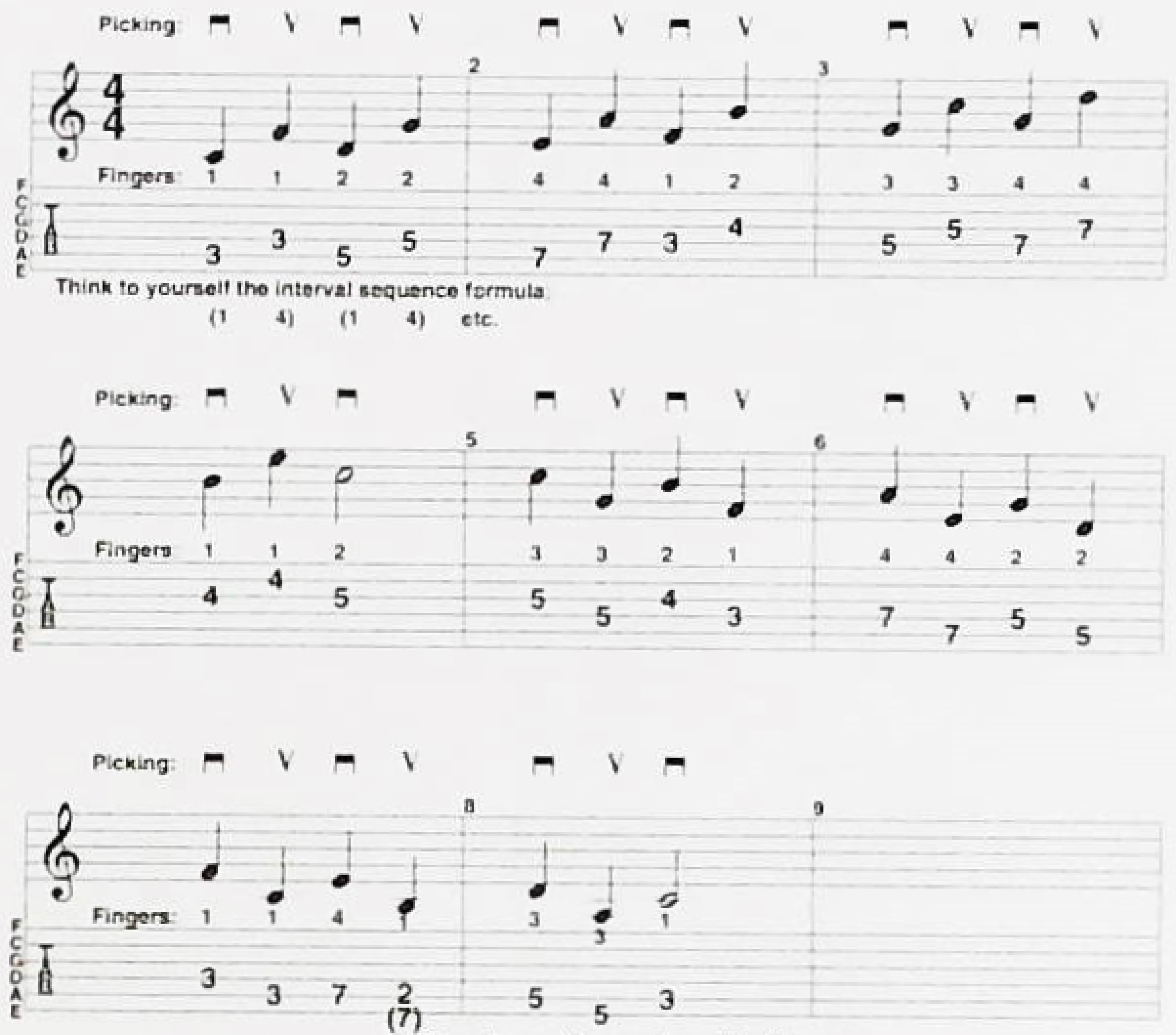
key of C major



Example 27-D

Interval Sequence in 4ths

key of C major



optional position using 4th finger

Homework/Chapter 27

ASSIGNMENT ONE… Perform interval sequences in 3rds and 4ths by saying or singing aloud the interval sequence formula as you play through *examples 27-C* and *27-D* with your instrument. Speaking aloud and singing are still the best approaches for memorization of scale degree locations and major scale pattern recognition and retention. Check *proper direction picking.*

ASSIGNMENT TWO… Squeeze both interval sequences into a song either as a chord fill or as a segment of the solo section. Play the sequence using your comfort-zone pattern or pattern combination.

ASSIGNMENT THREE… "Song-of-the-Week." Select a song and learn to play it. No excuses, do it for **one week!** Continue to build a repertoire of licks, tricks, and songs.

ASSIGNMENT FOUR… It's review time! Do you still want to learn at the speed-of-light and push the envelope? Then it's crucial to maintain contact with the outside world. ***Do not lock yourself in a room with your guitar!*** (Maybe you could start your own band or offer a music appreciation course?) It's time to set-up a private music lesson. ***Outside "help" is required to reinforce all chapters found in this level!*** In addition, it's crucial to thoroughly understand everything found in the previous pages **before** continuing to the next level.

THE BOTTOM LINE… Be able to taste, smell, touch, and feel intervals and intervallic sequences in your sleep!

CHAPTER 28
Exotic Chords

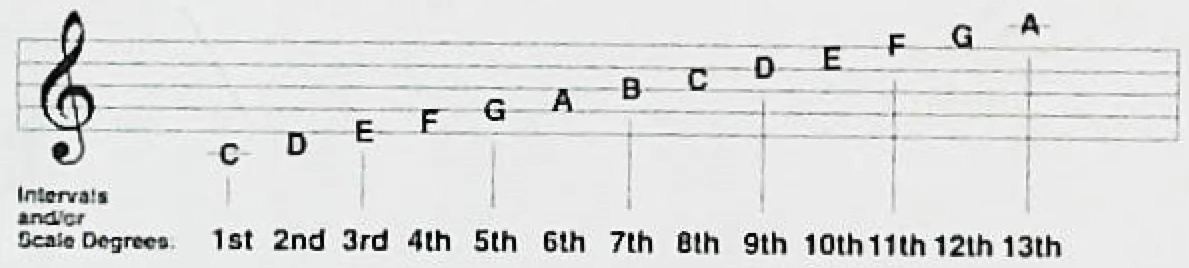
Grab a three note major triad chord and add a seventh, you have *altered* the original triad chord by *extending* it with a seventh tone. But, use a triad chord, alter and/or extend it with other notes, then you have created the contemporary rock/pop sound used by musicians such as Mr. Mister, the musician formerly known as Prince, Heart, and Neil Diamond. Next, if you grab a four note seventh chord, alter and/or extend it with other notes, you then have created a sophisticated blending of tones used by fusion guys like Chick Corea and Michael McDonald. Four note seventh chords create more *tension* and *interest* than three note triad chords. "Interest" is defined as different, fresh, and/or unusual. It does not mean *better sounding*.

Extensions are defined as optional diatonic notes added to the basic triad chord. *Alterations* can be defined as the extensions of the basic triad chord which are *not* included in the diatonic scale. Extended and/or altered voicings can be used as *surprise chords* in a song. That is, they are sporadically placed in a song without prior warning. Or, an alteration and extension can be used throughout an entire piece of music as the song's trademark sound. Experiment with your music because there are no *Music Police!*

Whenever a diatonic scale's octave is exceeded, the interval and/or scale degree numbers are changed. For example, the 2nd degree is also considered the 9th interval or scale degree if played above the 8th scale degree and/or octave. Likewise the 4th is an 11th, and the 6th is a 13th. An easy way to determine intervals and/or scale degree numbers above the first octave is to add "7" to the interval and/or scale degree in the first octave. *Example 28-A* presents a two octave C major scale with the appropriate interval and/or scale degree number. By the way, intervals and/or scale degrees do not exceed beyond the 13th.

IMPORTANT Be aware that many pros will play a 2nd, 4th, and 6th in the first octave, but call them a 9th, 11th, and 13th respectively. While this method is not by the book, it's done to emphasize the extensions and actual chord/interval voicing.

Example 28-A:



Example 28-B is a diagram showing commonly used extensions and alterations for scales and chords. To really achieve the sound of an extension and/or alteration, most guys and gals will voice the extended and/or altered note on *top* of a chord. That is, the extension and/or alteration is the highest pitched tone of a chord.

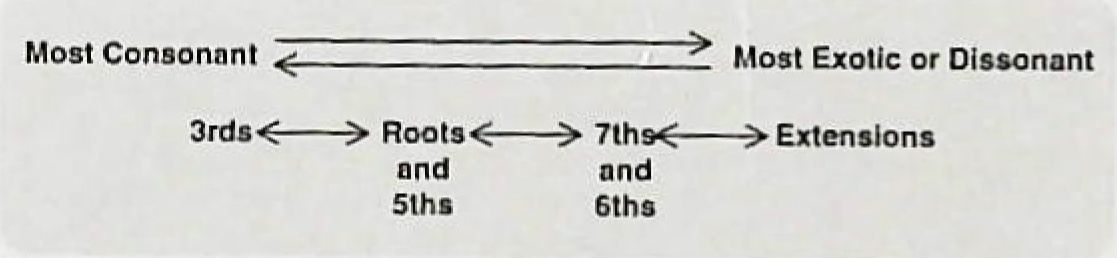
Example 28-B:

Extension Possibilities	Alteration Possibilities
9 11 13	♭5 ♯5 ♭9 ♯9

IMPORTANT Extensions beyond the seventh do not change the *quality* of a chord (i.e. major, minor, etc.). The extension's sole purpose in life is to provide more color. But, in the case of dominant chords, extensions will create a more dissonant quality.

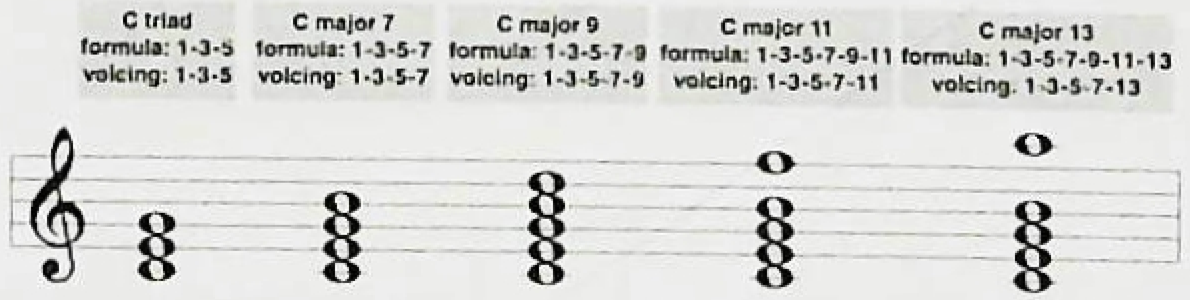
Example 28-C is a diagram showing how just one note will influence the overall sound characteristics of a chord. Adding or subtracting one note to or from a chord can create a consonant texture, an exotic or dissonant structure, and anything in between. This gives the musician/songwriter a wide choice of chordal characteristics and moods from which to choose.

Example 28-C:

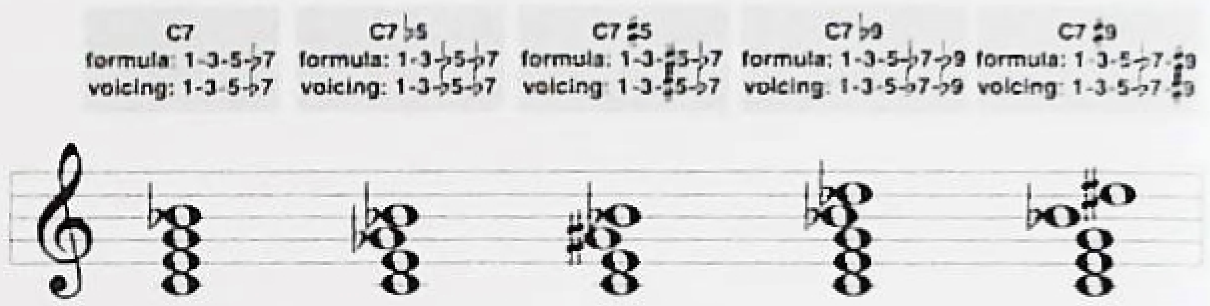


Example 28-D shows the C major triad extended through the 13th. *Example 28-E* presents the C dominant seven (C7) with common alterations. Root position is demonstrated for both examples in music notation only. Be aware that many voicings are available. And, just because a theory book states a chord formula, that doesn't mean you should play all of the notes in the formula. Be creative, use your ears, throw away some chord formula notes, and manufacture your own personalized voicings. For example, when the C major triad is extended beyond the seventh in *example 28-D,* I only play the 1st, 3rd, 5th, 7th, and the extension. While this is not 100% by the book, it does emphasize the root chord quality, plus it clearly and accurately presents the extension without the muddiness associated with multiple extensions.

Example 28-D:



Example 28-E:



Homework/Chapter 28

ASSIGNMENT ONE… Write an original song, occasionally substitute chord extensions and alterations.

ASSIGNMENT TWO… Experiment with various chord voicings using extensions and alterations. Try to find one or two voicings that sound good to you. Don't play all available notes from a chord formula. (Try eliminating the 3rd!) Hey, you can even eliminate the root because there are no *Music Police!* All voicings should fit your comfort-zone.

ASSIGNMENT THREE… "Song-of-the-Week." You've got **one week,** so do it!

THE BOTTOM LINE… Don't overdo the use of chordal extensions and alterations –unless you're creating intellectual music styles such as jazz, classical, and fusion. In the "real" world, extended and altered chords work best as surprise chords. Your ear is your strongest ally.

SECRETS In any major key, it's possible to substitute an "add 9" without the 3rd for all chords except the III and VII chords. This voicing produces a very modern, sophisticated sound, and is used extensively by guys like Steve Vai.

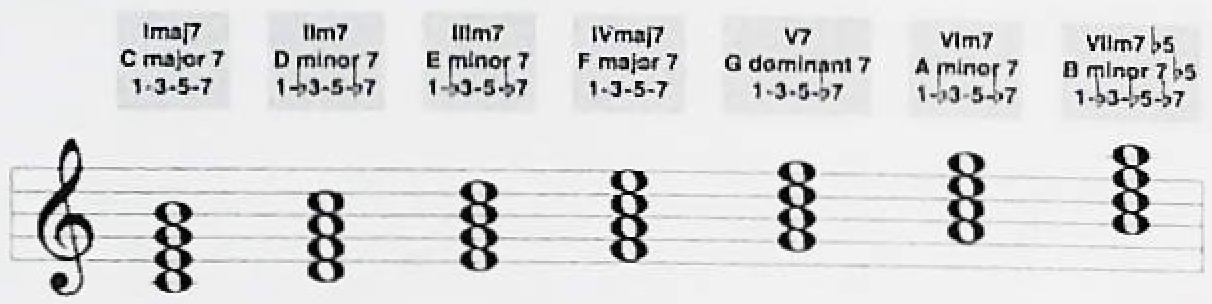
SECRETS Chords played with extensions and/or alterations, and *without* the 3rd, are totally *transparent* and "rule" in all forms of music. Even though a chord *without* the 3rd is neither major nor minor in quality, it's definitely one of my favorite voicings.

CHAPTER 29
Harmonized Major Tonality Scales

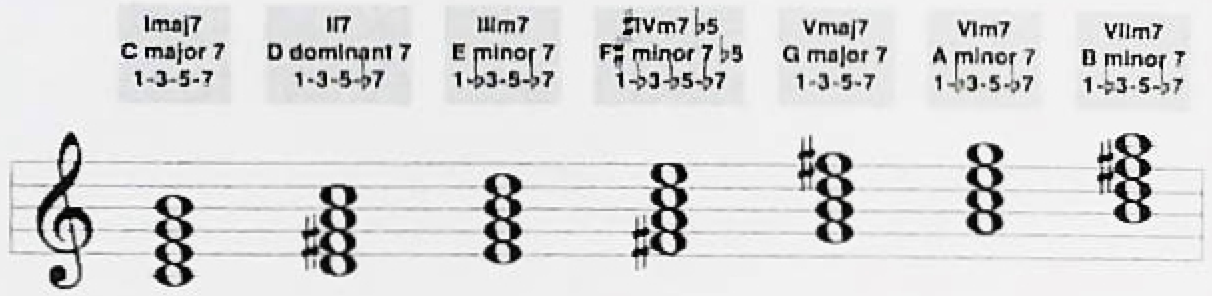
Chords are created by using every other note of a diatonic scale. So, it's easy to build chords by grabbing any scale and using every other note. *Example 29-A* shows the Ionian, Lydian, and Mixolydian harmonized scales in the "parent" key of C major with only notation. The use of notation without fretboard diagrams will force you to discover various chord voicings and patterns. For these examples, begin with the "parent" C *major* scale, and alter it according to the respective modal formula. Always try to see everything from the "parent" *major* scale!

Example 29-A

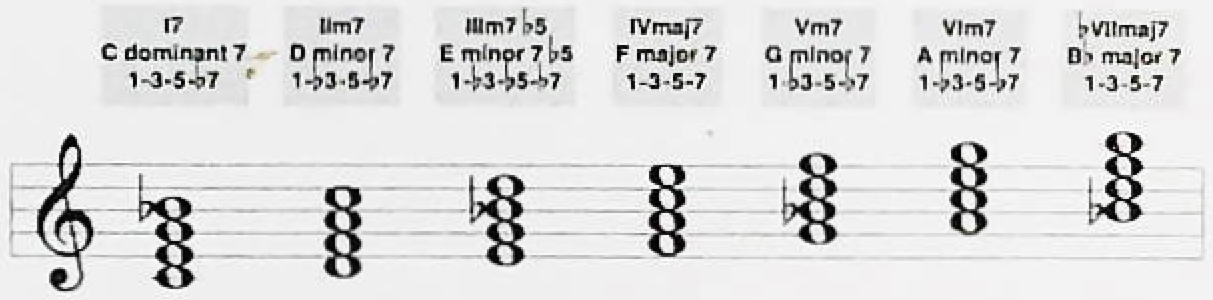
Harmonized C Ionian Scale



Harmonized C Lydian Scale



Harmonized C Mixolydian Scale



The textbook approach says each harmonized scale can be played over its respective scale during all melodies and solos. Actually, this is the beginning of *matching harmonized scales.* Don't forget, the C Ionian scale and C Ionian harmonized scale are the same as C major. Go for your own personalized chord voicings!

Note… Roman numerals above each chord represent each altered and/or unaltered scale degree to match the scale's formula.

Homework/Chapter 29

ASSIGNMENT ONE… Write an original song in the key of C Lydian. That is, the C Lydian scale should be combined with its matching C Lydian harmonized scale.

ASSIGNMENT TWO… Write an original song in the key of C Mixolydian. That is, the C Mixolydian scale should be combined with its matching C Mixolydian harmonized scale.

ASSIGNMENT THREE… "Song-of-the-Week." **One week!** Do it and record it!

THE BOTTOM LINE… Be aware that lots of "cool" sounding scales exist and are waiting for you. And, as soon as you harmonize scales (i.e. combining scales with their matching harmonized scales) and build personalized chord voicings and progressions… ***Whoa!*** This may be your chance to mercy-kill your friends and neighbors with *killer* line/chord combinations.

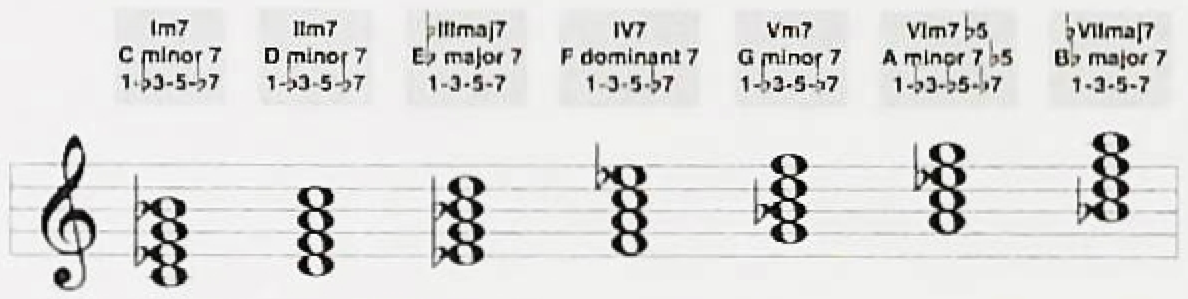
CHAPTER 30

Harmonized Minor Tonality Scales

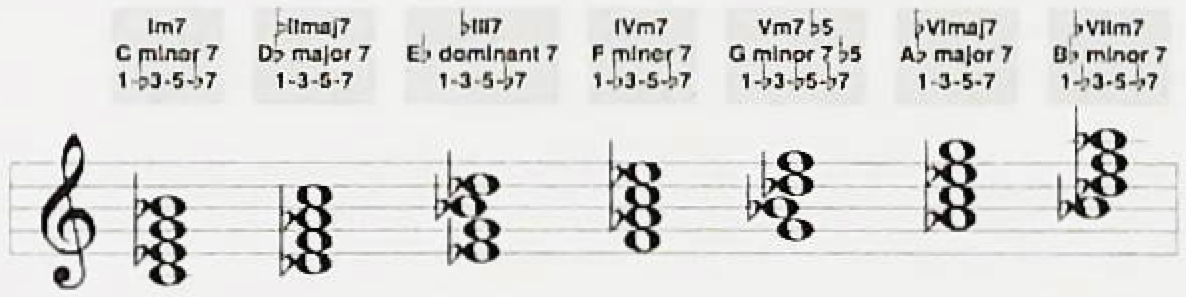
The Dorian, Phrygian, Aeolian, and Locrian harmonized scales in the "parent" key of C major are in *example 30-A.* Notation without fretboard diagrams forces you to discover new chord voicings and patterns. For these examples, begin with the "parent" C *major* scale, and alter according to the respective modal formula. Try to see everything from the "parent" *major* scale!

Example 30-A

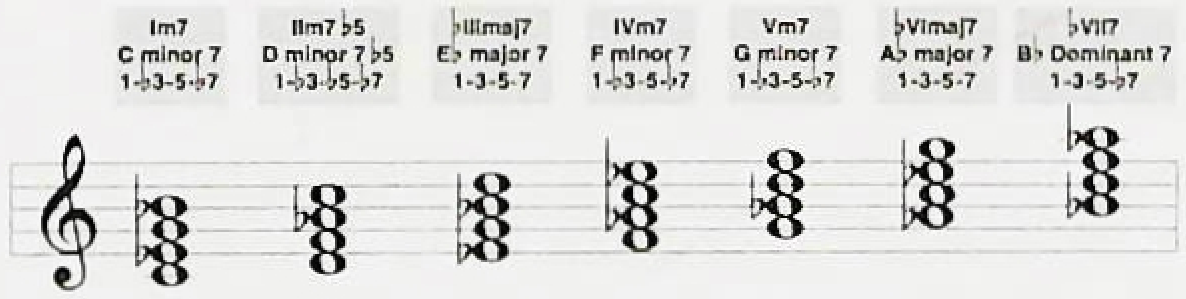
Harmonized C Dorian Scale



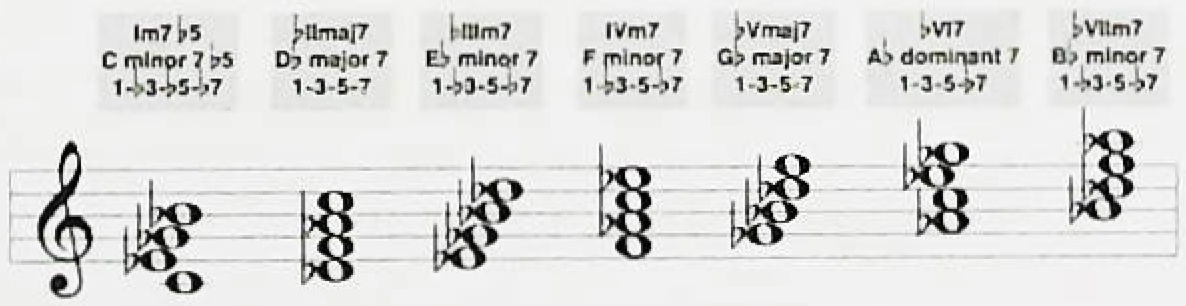
Harmonized C Phrygian Scale



Harmonized C Aeolian Scale



Harmonized C Locrian Scale



Each harmonized scale should be played over its respective scale during all melodies and solos if you want to play "inside." As in the previous chapters, this is only a textbook approach. So, break some rules and build your repertoire with some new, personalized chord voicings!

Note… The Roman numerals above each chord represent altered and/or unaltered scale degrees to match the scale's formula.

Homework/Chapter 30

ASSIGNMENT ONE… Write an original song in the key of C Dorian. That is, the C Dorian scale should be combined with its matching C Dorian harmonized scale.

ASSIGNMENT TWO… Write an original song in the key of C Phrygian. That is, the C Phrygian scale should be combined with its matching C Phrygian harmonized scale. (You've got **one week!**)

ASSIGNMENT THREE… Write an original song in the key of C Aeolian. That is, the C Aeolian scale should be combined with its matching C Aeolian harmonized scale.

ASSIGNMENT FOUR… Write an original song in the key of C Locrian. That is, the C Locrian scale should be combined with its matching C Locrian harmonized scale.

ASSIGNMENT FIVE… "Song-of-the-Week." Record all assignments.

THE BOTTOM LINE… Minor keys seem to create feelings of gloomy darkness and sadness, while happier, brighter, carefree emotions can be felt in major keys. But, because there are more minor keys than major keys from which to choose, minor keys are *totally* happening when it's time to jam.

CHAPTER 31

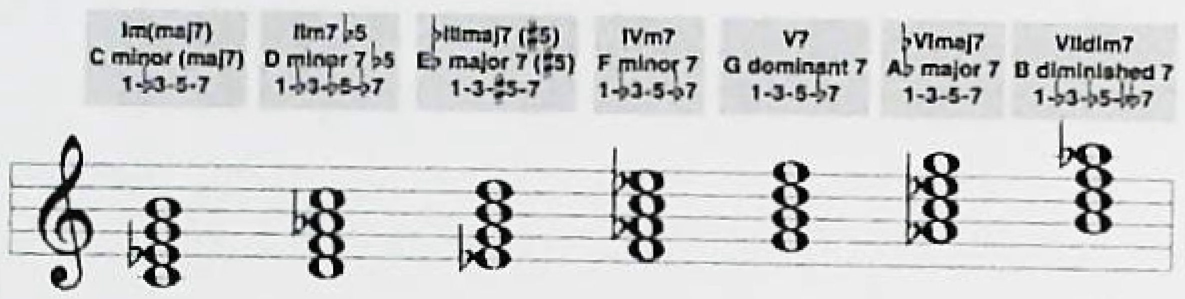
More Harmonized Scales

Have you ever wanted to *scare* your friends or write music for a murder mystery TV series? The harmonic and melodic minor scales produce spooky and eerie-sounding music. With proper phrasing, these two scales are guaranteed to get your knees shaking and send chills up your spine when combined with their matching harmonized scales.

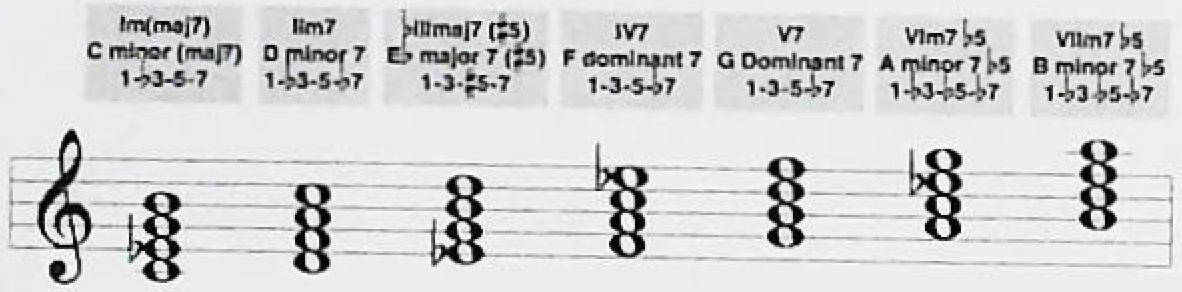
Using music notation, *example 31-A* shows the harmonic minor and melodic minor harmonized scales in the "parent" key of C major. With these examples, begin with the "parent" C major scale and alter it according to the respective scale formula. The use of notation without fretboard diagrams will force you to discover various chord voicings and patterns. If you desire to play "inside," each harmonized scale should be played over its respective scale during all melodies and solos. As in previous chapters, this is only a textbook approach. It's up to you to break music barriers with new and improved personalized voicings and patterns. By the way, the Roman numerals above each chord represent altered and/or unaltered scale degrees to match the scale's formula.

Example 31-A:

Harmonized C Harmonic Minor Scale



Harmonized C Melodic Minor Scale



Homework/Chapter 31

ASSIGNMENT ONE… Write an original song in the key of C harmonic minor. Don't forget to combine it with its matching harmonized scale (i.e. the harmonized C harmonic minor scale). This mixture will produce maximum harmonic minor tonal characteristics. Do the same for the key of C melodic minor; include its matching harmonized scale.

ASSIGNMENT TWO…"Song-of-the-Week." Get serious! You've got **one week!**

SECRETS If you have an interest in composing and/or producing music for television and film, check-out these two scales. A little experimentation could produce some very worthwhile film and TV music. Plus, you can really make some serious cash once you break-in to the television and film music scene.

IMPORTANT Always try to see everything from the "parent" scale.

CHAPTER 32
Nondiatonic Chords

There are many harmonic substitution systems available to songwriters and musicians. One of my personal favorites is to substitute harmonized *minor* scale chords into *major* keys. This substitution process creates bluesy-sounding *major* keys. For example, the ♭III chord can be found in the Dorian and Aeolian harmonized scales. Look closely at these two harmonized minor scales and you will see the ♭III chord quality is *major.* By substituting the ♭III chord for the major scale's III chord, I have just created a very common chord substitution found in *major* keys by *borrowing* a chord from a *minor* key. Under these circumstances, the ♭III chord functions as the *tonic minor* in a major scale. Jimi Hendrix's masterpiece ***Purple Haze*** is a typical example of a ♭III chord substitution in a major key. When the song begins, the chord progression is I-♭III-IV (i.e. E7♯9-G-A) in the key of E major. The normal chord progression in the key of E major should actually be I-III-IV (i.e. E7♯9-G♯m-A). But the ♭III substitution establishes the song's trademark sound and overall feel. Other classics like ***Proud Mary, Smoke on the Water,*** and even the Stone's ***Brown Sugar*** and ***Sara*** by the Starship make use of the ♭III substitution. The ♭III chord is typically used in its triadic form. Adding the seventh on top of the ♭III takes away from the bluesy feel, and is therefore not recommended.

Flat VII Substitutions

Another nondiatonic chord which can be used as a chord substitute is the ♭VII and/or ♭VIImaj7. In a major key, the ♭VII is somewhat derived from the diatonic VII chord or VIIm7♭5. By lowering only the root of the not so popular VIIm7♭5 a half-step, an extremely valuable chord is created… the ♭VIImaj7. For example, in the key of C major, the VII chord is Bm7♭5. Lowering only the root by a half-step yields the B♭maj7. This chord can then be occasionally used in a song as a surprise chord and/or passing chord. But, it can also function as an integral part of a song. Be aware that the ♭VII replaces the VII chord in a major scale, and is normally played as a triad.

The V7sus4 Chord

In the harmonized major scale, the V7 chord is called the *dominant chord* due to its strong wanting-to-resolve nature. The V7 chord actually dominates the entire harmonized major scale with its urgency to resolve. It's almost impossible to end or stop a song on either a V7 or VIIm♭5 because of the *tritone.* In fact, these are the only two chords in a harmonized major scale containing the tritone. By replacing the 3rd in the V7 with a 4th, a soft and glassy dominant chord is produced… the V7sus4. Suspended fourths are used by lots of musicians. Perhaps the most common "performance" voicing for the V7sus4 chord is the triad. Check-out rock axe-man Edward Van Halen, and listen to what he does with the V7sus4 chord in his song ***Jump.***

Homework/Chapter 32

ASSIGNMENT ONE… Write an original song using the ♭III, ♭VII, and V7sus4 chords on paper.

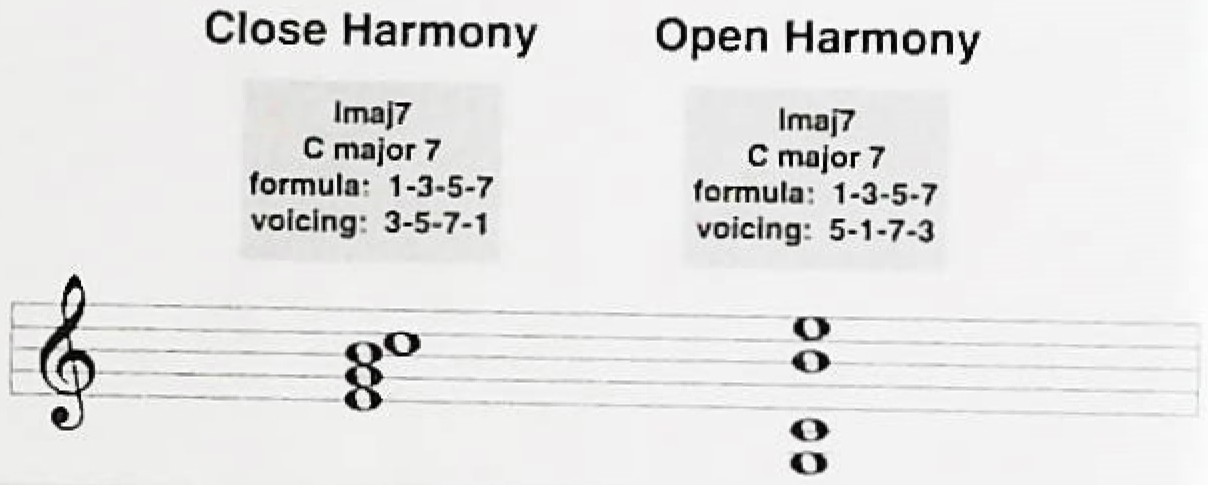
ASSIGNMENT TWO… "Song-of-the-Week." Learn to play Hendrix's bruising rendition of ***Purple Haze.*** And, I really don't care if you're a fusion or classical musician. It's important to know popular songs if you want to jam with friends, or audition for a band. Plus, you'll be able to check-out some very powerful non-traditional chord substitution principles. (Record the assignments for **one week.**)

THE BOTTOM LINE… The use of nondiatonic chords can open new musical doors for those willing to experiment with mixing and matching non-traditional chord substitutions. A combination of alternate voicings, substitutions, extensions, alterations, and innovative harmonic systems will generate a universe of fresh, unpredictable music.

CHAPTER 33
Open Chords

When musicians talk about *open chords,* you could be faced with more than one possibility. Guitarists typically define open chords as those which include one or more notes played on "open" strings, and are permitted to freely ring. I prefer to define open chords as those which are built with *open position notes* and/or *tones.* The traditional term "open position" and/or *open harmony* refers to the placement of notes within a chord. That is, notes are placed as far as possible from one another. The opposite of this would be *close harmony,* and is defined as placing the notes of a chord as "close" together as possible. *Example 33-A* shows the Cmaj7 chord with voicings demonstrating open harmony and close harmony.

Example 33-A:



Example 33-B demos some of my personal favorite power chords (also called *open fifths*). ***Beware!*** The problem with a lot of players is they rely exclusively on one or two chord shapes, and work them to death. Using the same chord shapes and voicings produces boring, repetitive music, and really limits your musicianship. One simple, state-of-the-art solution for building chord flavors are *extensions.* The addition of extensions will definitely expand your harmonic boundaries quickly and easily. Included in *example 33-B* are some power chords with extensions. Not only do you retain the spacious, thick, high-powered sound of the open fifth, but you also increase the power chord's harmonic content. Extensions can be used as passing chords and/or substitute functioning chords. Both approaches are totally *killer,* and I highly recommend them.

Note… Be sure to listen for the "open" sound characteristics found in the following power chords.

Example 33-B:

Power Chords, Inverted Power Chords, and Power Chords with Extensions

C5
C power chord
formula: 1-5
voicing: 1-5

C5
C power chord
formula: 1-5
inverted voicing: 5-1

C5
C power chord
formula: 1-5
voicing: 1-5-1

C5
C power chord
formula: 1-5
inverted voicing: 5-1-5

C5
C power chord
formula: 1-5
voicing: 1-5-1-5

C5
C power chord
formula: 1-5
inverted voicing: 5-1-5-1

C5 (add 9)
C power chord with a 9th
formula: 1-5-9
voicing: 5-9-5-1

C5 (add 11)
C power chord with an 11th
formula: 1-5-11
inverted voicing: 5-1-11-1

C5 (add 13)
C power chord with a 13th
formula: 1-5-13
inverted voicing: 13-1-5-1

Homework/Chapter 33

ASSIGNMENT ONE… Write an original song, occasionally substitute some power chords, inverted power chords, and power chords with extensions on paper.

ASSIGNMENT TWO… Experiment with various chord voicings using power chords with and without extensions. Try to find one or two voicings that sound good to you. Also, try not to play all available notes in chord formulas. Eliminating and/or re-voicing notes from chord formulas will generate fresh-sounding chords. Voicings should fit into your comfort-zone. As usual, I personally use and recommend the URMSP as a basis for all chordal construction and development.

ASSIGNMENT THREE… "Song-of-the-Week." **One week!**

THE BOTTOM LINE… Don't overdo the use of power chord extensions, unless you're hooked-on intellectual music styles such as jazz, new age, classical, and fusion. Extended power chords work best as passing chords in western civilization music. But, they also work very well as substitute functioning chords.

IMPORTANT Always remember… ***new voicings, not chord substitutions, produce new and fresh-sounding chords!***

More info… Open strings in chords can give rhythm guitar tracks a bright, shimmering quality. You can do this by sounding open strings together with fretted notes. It's important to note that open-string notes typically have a brighter timbre than their fretted counterparts. Sounding open strings with fretted power chords produces an incredibly professional sound. You can even come up with some "cool" and unusual voicings by simply shifting familiar open chord shapes up and down the fretboard. To actually hear this rich and creamy type of chord structure, check-out Steve Howe, Pete Townshend, Randy Rhoads, Alex Lifeson, Jimmy Page, and the guys in Def Leppard.

CHAPTER 34

Quartal Harmony

As seen throughout this and other books, chords are traditionally constructed with intervals based on thirds *(tertian harmony)*. But, did you know it's possible to deviate from traditional chord-building methods and venture into other harmonic territories?

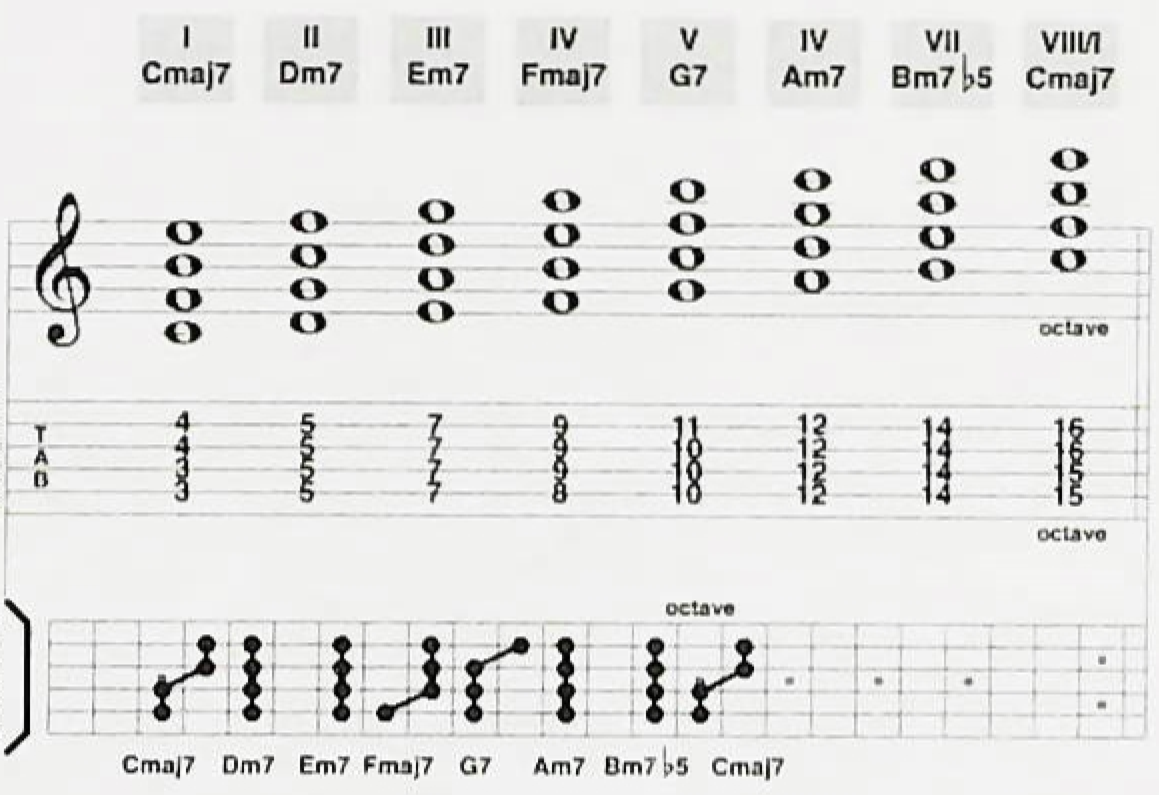
Quartal harmony is a fresh-sounding chordal system constructed with intervals based on fourths. When compared directly to diatonic chords consisting of thirds, quartal harmony chords tend to growl and bark, and thus sound more interesting. Plus, just as with chords based on thirds, chords created with fourths can be directly applied to all playing situations including songwriting, musical arrangements, and direct chord substitutions.

Example 34-A presents the harmonized C major scale using the quartal harmony system. Only root position chords are demonstrated, but all chord and scale types found in traditional tertian harmony are also possible in quartal harmony. Inversions, power chords, modes, and optional voicings are all possible. Since the "parent" C major scale is used to form the harmonized scale shown below in *example 34-A*, possible scale and mode choices to be played over these chords are the same as those found in tertian harmony. For example, the C Ionian scale would "fit" over the harmonized C major scale in quartal harmony. As a matter of fact, the harmonized scales found in the quartal harmony system have the same names as those found in the tertian harmony system.

Example 34-A:

Harmonized C Major Scale with Quartal Harmony

root position



Homework/Chapter 34

ASSIGNMENT ONE… Write an original song using the harmonized C major scale based on the quartal harmony system.

ASSIGNMENT TWO… Repeat the same song from above, but use chords from the harmonized C major scale based on the tertian harmony system. Occasionally substitute chords with the same name from the quartal harmony system.

ASSIGNMENT THREE… "Song-of-the-Week." Select a song and learn to play it! You've got **one week!**

ASSIGNMENT FOUR… Record the above assignments, analyze what's good and what's not so good with all performances.

ASSIGNMENT FIVE… It's review time! To achieve a reduced learning curve, maintain contact with the outside world. ***Do not lock yourself in your room with your guitar!*** (It's definitely time for you to join a band and make some extra cash!) Hey, if you have not visited a local music instructor this month, it's time to set-up a private lesson. The instructor can be a friend, music teacher in your neighborhood school, local musician, or choir director at your church. This book contains upper-level harmony and theory concepts, so you may have a problem locating a qualified instructor. ***As usual, outside "help" is required to reinforce all chapters found in this level!*** Plus, it's crucial to thoroughly understand everything found in the previous pages **before** moving-on to the next level. Don't "kid" yourself! If you want to *burn,* go and get some *outside* assistance!

THE BOTTOM LINE… Quartal harmony can really change the sound of both old and new music. Sure, it looks and sounds weird and different, but the same was said about Bach, Mozart, Elvis, and even the Beatles during their time. It seems to take time to determine and/or justify the value of all things in life.

IMPORTANT To increase speed and pursue speed-picking, it's mandatory to find a balance between *perfection* and *pushing-the-limit.* Always set your metronome 5, 10 or 20 bpm higher than your best mm for a few minutes, and then return to a *no-mistakes* metronome speed (i.e. constantly flip-flop between these two speeds). Sure, you'll make mistakes and play somewhat out-of-control. But, you need to "push" yourself without losing sight of perfection if you want to develop higher picking speeds. **You need to *push the envelope!***

CHAPTER 35

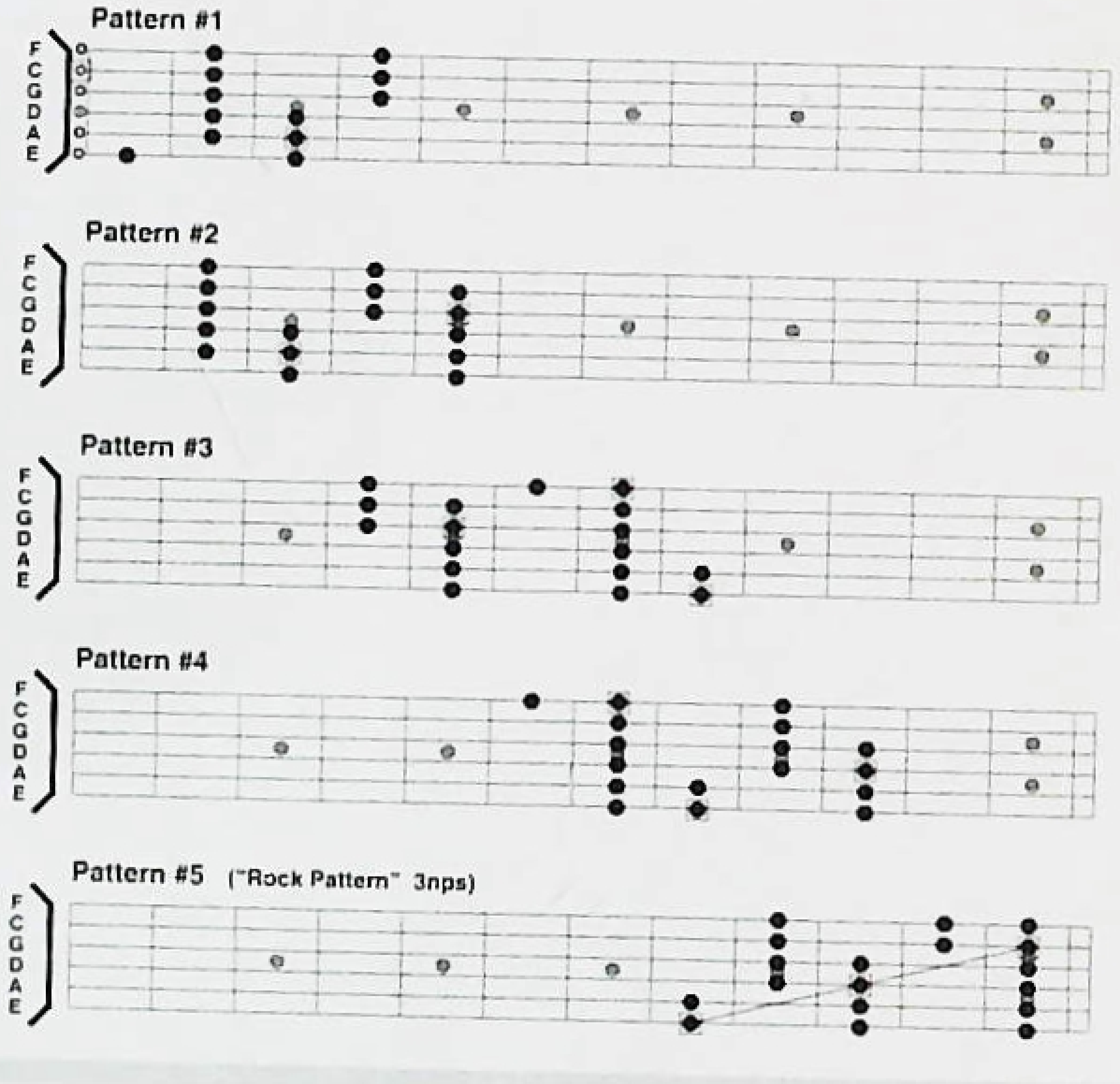
Traditional Pattern Soloing Systems

While standards for the guitar have not been developed to date, there are, in fact, specific *systems* readily used and accepted by players. Traditional shapes have been the basis for a number of "hot" players over the years. With a little experimentation, you'll discover certain patterns sounding like some of your favorite heroes. Each pattern tends to contain specific characteristics due to *natural* finger placement. *Mother Nature* suggests that *natural* finger movements are not random. Fingers like to move in a particular order or sequence relative to patterns/shapes. This finger sequence/pattern relationship is one of the major factors attributed to creating a personal trademark or signature style. If you can find another musician's favorite comfort-zone pattern, then you can almost duplicate his or her individual trademark style. Develop a new, unused pattern, and you'll be on your way to creating your very own trademark style. By the way, alternate tunings will aid in one's quest for new trademark styles.

Examples 35-A, 35-B, 35-C demonstrate traditional patterns. As usual, all patterns contain the same notes and are based on the five traditional major scale patterns found in Radical Rules (level 1).

Example 35-A:

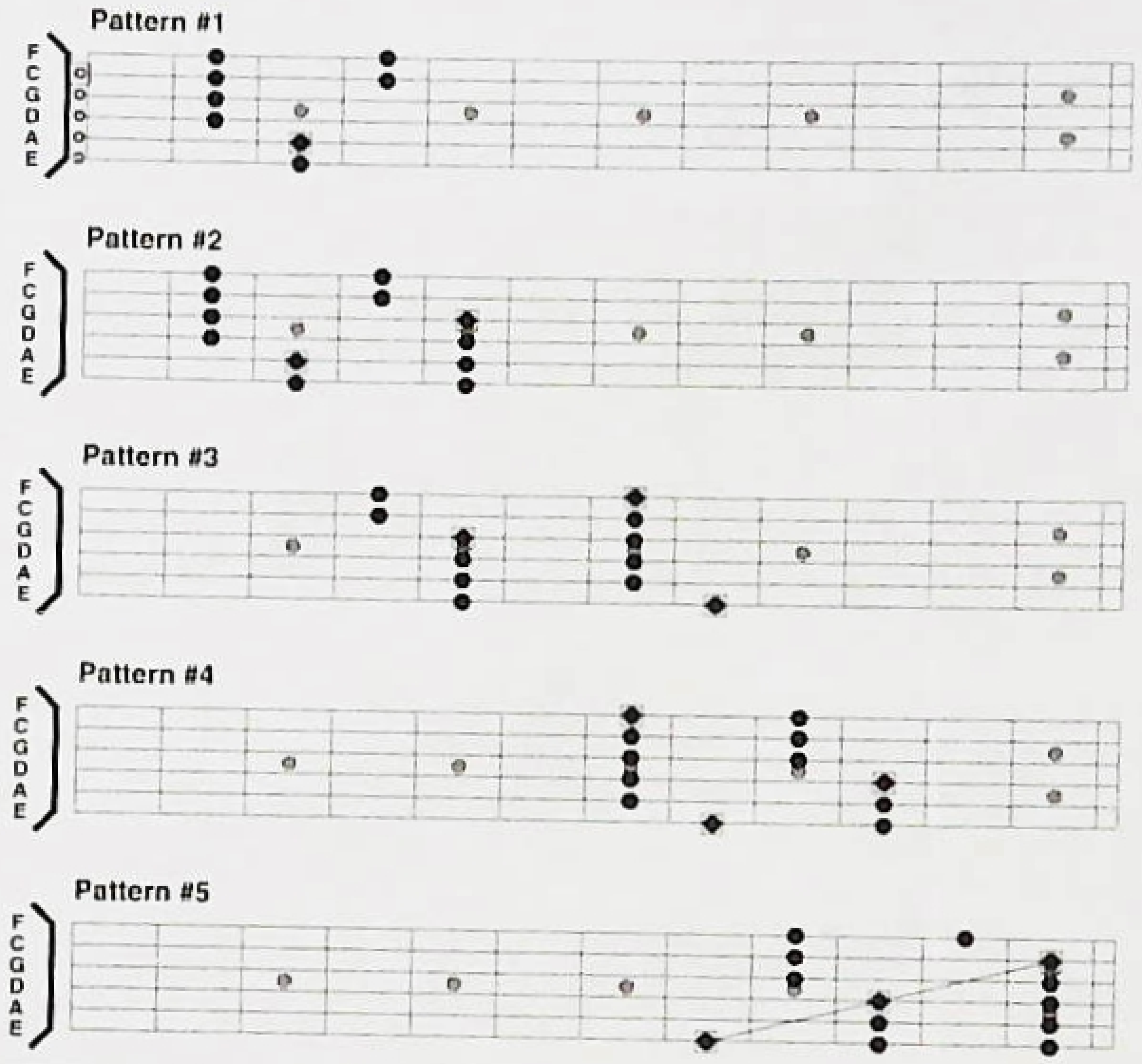
Traditional C Major Scale Patterns



Example 35-B:

Traditional C Major / A Minor Pentatonics

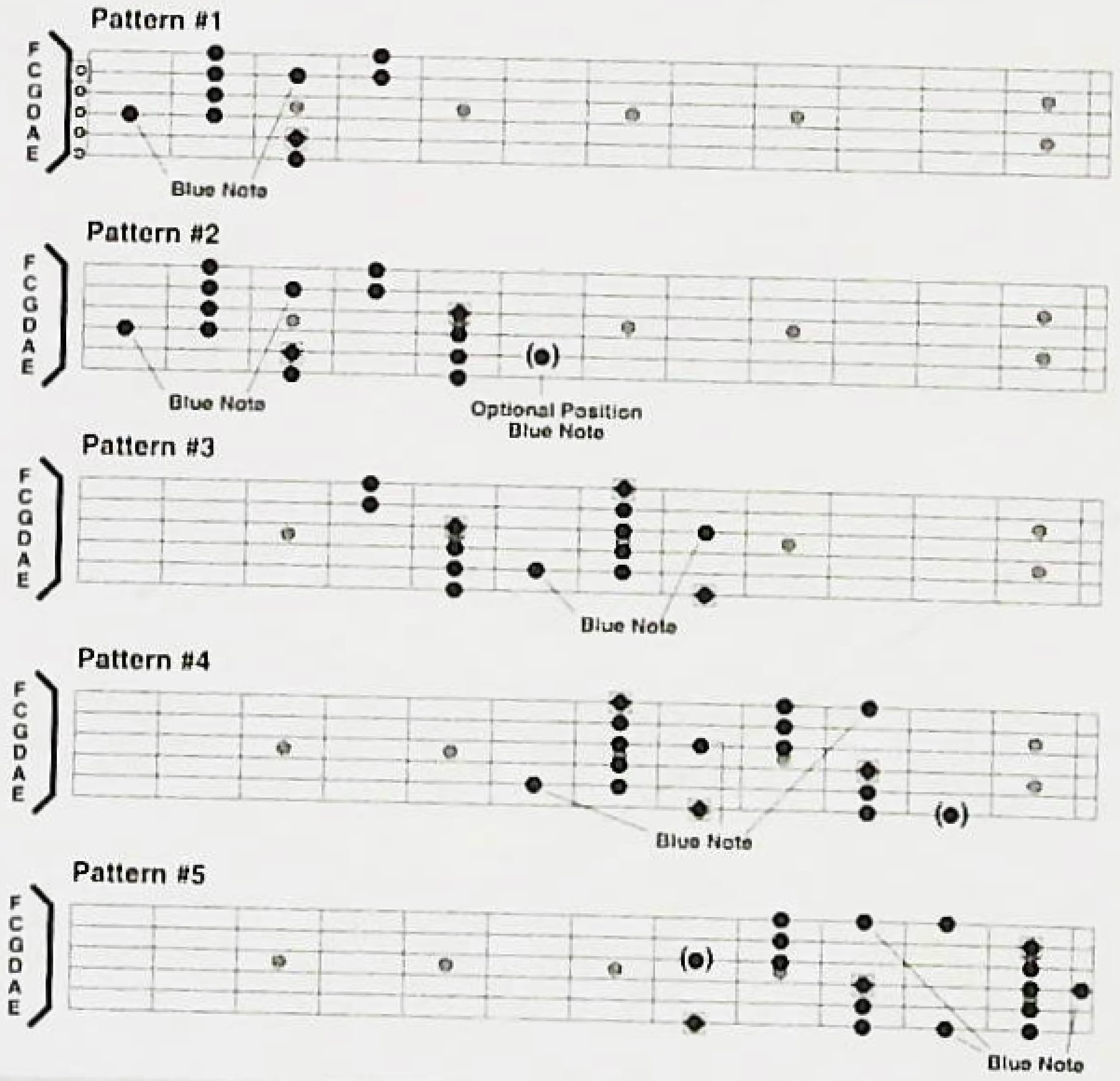
(NOTE: Don't forget to use A as root for all A minor patterns! The notes and patterns are identical because C major and A minor are relative to one another.)



Example 35-C:

Traditional C Major / A Minor Blues Scale

(NOTE: Don't forget to use A as root for all A minor patterns! The notes and patterns are identical because C major and A minor are relative to one another.)



Modal Secrets

Explanations of modal patterns often create more questions than answers. But, just keep reminding yourself... ***everything in western civilization music is related to the major scale!*** Look closely at *example 35-D* and you will discover that each major scale modal pattern contains the same seven identical notes. So, if you would like to play over the entire fretboard (and who doesn't, right?), only memorize these seven traditional major scale modal patterns, connect the patterns together, and you'll possess total access and control over the entire fretboard real estate. Don't forget, always try to see everything from the "parent" major scale!

So, why do each of the seven patterns have modal names? Since everything in western music is based on the major scale, only locate the lowest note in a pattern. This low note acts as the pattern's **root.** Next, determine the pattern's scale degrees based on the major scale's interval formula 1-2-3-4-5-6-7. The result should be an unaltered or altered major scale which just happens to be the same as one of the seven major scale modal formulas. For example, the first fretboard diagram (major scale degree #1) in *example 35-D* shows "C" as the lowest note in the pattern. Playing the notes and analyzing the scale degrees of the pattern will produce the formula 1-2-3-4-5-6-7. This specific formula matches the major scale and/or Ionian mode formula. Don't forget, "C" is the root! As a result, the correct scale classification is the "C major scale" and/or the "C Ionian mode," because scales and modes are named by their **roots.** The "parent" major scale is C major.

The second fretboard diagram (major scale degree #2) in *example 35-D* shows "D" as the lowest note. D Dorian is the second mode of the C major scale, so ***C Dorian*** is the second mode of what major scale? Answer: C is the second degree of the B♭ major scale. Therefore, ***C Dorian*** contains the same notes as B♭ major, but it starts on the second degree. Another possibility would be to alter the C major scale to fit the Dorian 1-2-♭3-4-5-6-♭7 formula and ask the question: What major scale contains the notes C-D-E♭-F-G-A-B♭? Answer: the B♭ major scale contains B♭-C-D-E♭-F-G-A. So, ***C Dorian*** includes the same notes as the B♭ major scale; only the roots are different. That is, C is the root in C Dorian, and B♭ is the root in the B♭ major scale. Don't forget, C major is the "parent" major scale.

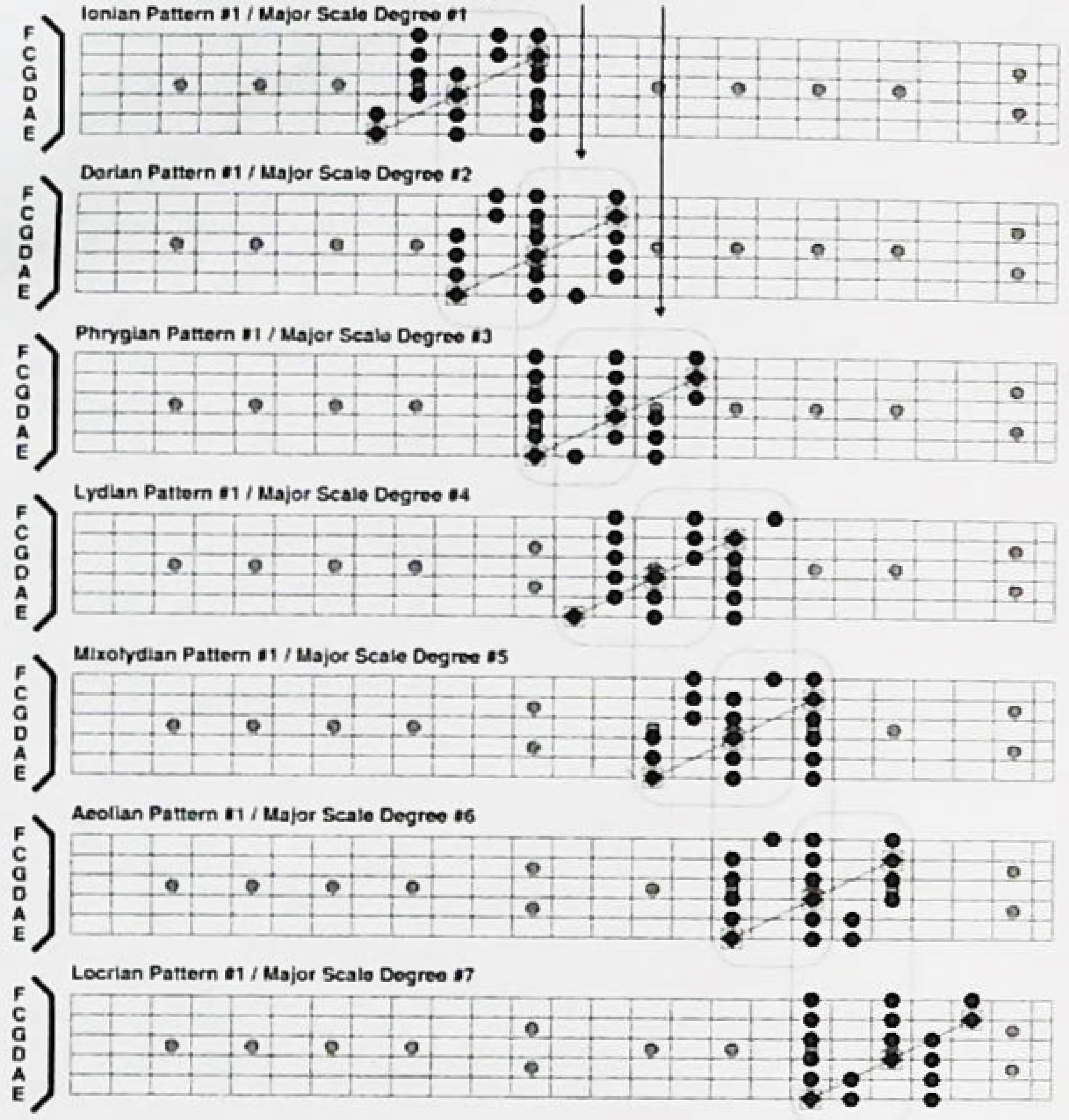
The third fretboard diagram (major scale degree #3) in *example 35-D* shows "E" as the lowest note in the pattern. E Phrygian is the third mode of the C major scale, so ***C Phrygian*** is the third mode of what major scale? Answer: C is the third degree of the A♭ major scale. Therefore, ***C Phrygian*** contains the same notes as A♭ major, but it starts on the third degree. Another possibility would be to alter the C major scale according to the Phrygian 1-♭2-♭3-4-5-♭6-♭7 formula and ask the question: What major scale contains the notes C-D♭-E♭-F-G-A♭-B♭? Answer: the A♭ major scale contains A♭-B♭-C-D♭-E♭-F-G. So, ***C Phrygian*** contains the same notes as the A♭ major scale; only the roots are different. That is, C is the root in C Phrygian, and A♭ is the root in the A♭ major scale. Forget that it's A♭! Try to see it from the "parent" major scale of C major. And so on.

Don't become intimidated with this stuff! It's really easy once you experiment with these concepts. Just remember... ***all seven modal patterns contain the same notes, only the roots have changed!***

Example 35-D:

Traditional 3nps Major Scale Modal Patterns

IMPORTANT... Notice how the notes and patterns repeat! These repeating notes act as connecting points in order to connect patterns up and down the entire neck. This is only one of many proven methods which allows you total access over the entire neck.


Ionian Pattern #1 / Major Scale Degree #1
Dorian Pattern #1 / Major Scale Degree #2
Phrygian Pattern #1 / Major Scale Degree #3
Lydian Pattern #1 / Major Scale Degree #4
Mixolydian Pattern #1 / Major Scale Degree #5
Aeolian Pattern #1 / Major Scale Degree #6
Locrian Pattern #1 / Major Scale Degree #7
F
C
G
D
A
E

Homework/Chapter 35

ASSIGNMENT ONE... Write an original song and perform it five times. The first version should be performed with traditional major scale pattern #1, the second with the same notes, but using traditional pattern #2, etc.. If you write your song in C major, the patterns in *example 35-A, 35-B,* and *35-C* can all be played over their matching harmonized C major scale.

ASSIGNMENT TWO... Perform the same original song from above seven times. The first song should be performed with the traditional 3nps major scale modal pattern #1, the second using the same notes, but with the traditional 3nps major scale modal pattern #2, etc.. Again, if you write your song in C major, the patterns in *example 35-D* can be played over their matching harmonized C major scale.

ASSIGNMENT THREE... "Song-of-the-Week." Do it, use it, master it, and record it!

THE BOTTOM LINE... Continue the quest for your comfort-zone by experimenting with the five traditional major scale patterns and seven traditional 3nps major scale patterns.

CHAPTER 36

Formula Soloing Systems

The opposite of thinking and performing in patterns is to think and perform in *formulas.* Consider the following two situations: **A)** you're called into the studio to do a "one-take" solo on an original music score, or **B)** you're invited to audition for a popular local band. The guys in the band will allow you to take a short "one-take" solo over their original song, so the song is not in your repertoire. The clock is ticking, so there's no time to develop a solo. To make things worse, another guitarist has already laid down his 100% "in-position" minor pentatonic solo. (By the way, the studio and local band are looking for something other than *traditional* minor pentatonics, so you can forget about using any of your favorite minor pentatonic licks.) What do you do? The solution is simple... reach into your bag of *systems* and select another soloing option such as the *formula system.*

Applying scale formulas to a chord's root is commonly referred to as the *formula system.* For example, suppose you want to solo over a Cm chord. All you need to do is find the root of the Cm chord which is "C," consider the root "C" as number "1" in a scale, apply one of the *minor* scale formulas such as Dorian 1-2-♭3-4-5-6-♭7 (i.e. C-D-E♭-F-G-A-B♭), and wail-away with the formula's notes in your solo.

Example 36-A shows the three basic chord categories with their respective matching scales in the key of C major. You only need to match the proper scale to the proper chord. Look closely and you'll see a relationship between chords and scales. That is, based on the major scale, all major chords functioning as the I chord and IV chord will match major tonality scales such as the Ionian mode and Lydian mode respectively. All minor chords functioning as II, III, VI, and VII chords will match minor tonality scales such as Dorian, Phrygian, Aeolian, and Locrian modes respectively. Finally, the dominant chord functions as the V chord, and will match the Mixolydian mode. When running across altered chords, you must match the chord quality (i.e. major, minor, or dominant), apply the correct matching scale, and alter the scale degrees according to the chord's specifications. So, when it's time to solo over a major, minor, or dominant chord, unaltered or altered, just reach for the matching scale and apply its formula to the chord's root. By the way, some scales will be "inside" and some "outside," but each matching scale will contain the proper overall "feeling" and sound characteristics to match its chord category.

Example 36-A:

Chord Categories	Matching Scales
C Major	C Ionian C Lydian
C Minor	C Dorian C Phrygian C Aeolian C Locrian
C Dominant	C Mixolydian

IMPORTANT In the "real" music world, Mixolydian can function in the major chord category due to the absence of the ♭3.

Homework/Chapter 36

ASSIGNMENT ONE... Write an original song, perform it three times. The first version with major chords and matching scale combinations, the second with minor chords and their matching scales, and the third version should contain the dominant chord with its matching scale. Don't forget to always begin a matching scale formula with the respective chord's root!

ASSIGNMENT TWO... "Song-of-the-Week." Don't wimp out!

SECRETS Lots of guys like speed-monster Frank Gambale rely on *formula systems* to perform their fretboard wizardry. There's just not enough time to analyze the chords found in unfamiliar songs during performance situations. Scrounging-around for matching scale patterns when it comes time to solo over each individual chord takes time, and is just not possible when reading through new music during "live" gigs.

CHAPTER 37

Slash Chord Soloing Systems

In the past, chord inversions had been notated with numerical fractions. Recently, musicians have been representing chord inversions with a slash (/) symbol. The *slash chord* has evolved from the consolidation of chord inversions and *pedal points.* In a slash chord, the name of a chord is placed to the left of the slash, while a bass note is placed to the right. For example, a G major chord with an "A" in the bass would be written G/A. The Bm7 chord with an "A" in the bass would be Bm7/A.

Slash Chords + Modes

When using slash chords, try to see the bass note as the "parent" major scale or major key center, and the chord is the modal note name found in the bass note's "parent" major scale. For example, the G/A slash chord says that I'm in the key of A major because "A" is the bass note or *bass pedal.* The G major chord could be considered as the I chord in A Dorian, or it could function as the V chord in A Aeolian.

Of course, the bass note in a slash chord will not always function as the root of a "parent" major scale. Slash chord definitions and usages will change from composer to composer. But, it is possible to "lean" in this direction whenever analyzing songs from other composers. I personally recommend and use this bass pedal/"parent" major scale relationship in all slash chord and non-slash chord situations.

IMPORTANT It is essential to "match" the correct modal scale with the correct harmonized major scale in order to produce the characteristic sound of a mode. Each of the seven major scale modes requires its own unique harmonized major scale.

One common method for determining correct mode and harmonized scale combinations is to ask a question concerning modes, scale degrees, and major scales. Although this method is slow and not useable during actual playing situations, it does, in fact, present the logic behind determining legitimate mode and harmonized major scale combinations.

The following questions and answers are based on the seven modes of the "parent" C major scale:

- Ionian Question: If C Ionian is the first mode in a C major scale, then ***C Ionian*** is the first mode of what major scale?
- Ionian Answer: ***C Ionian*** is the first mode of the C major scale. That is, the notes in the C major scale are identical to the notes of the C Ionian scale. By using the harmonized C major scale over a C bass pedal, the characteristic Ionian sound will be produced. The harmonized C major slash chord scale for C Ionian looks like the following: I=C/C, II=Dm/C, III=Em/C, IV=F/C, V=G/C, VI=Am/C, VII=Bdim/C.

Always look at the mode from its "parent" scale and not from its matching major scale. In this case, C major is the mode's "parent" scale and C is the matching scale. The C bass pedal helps to reinforce the "parent" scale's root (tonic) which is C.

- Dorian Question: If D Dorian is the second mode in a C major scale, then ***C Dorian*** is the second mode of what major scale?
- Dorian Answer: ***C Dorian*** is the second mode of the B♭ major scale. That is, the notes in the B♭ major scale are identical to the notes of the C Dorian scale. By using the harmonized B♭ major scale over a C bass pedal, the characteristic Dorian sound will be produced. The harmonized B♭ major slash chord scale for C Dorian looks like the following: I=B♭/C, II=Cm/C, III=Dm/C, IV=E♭/C, V=F/C, VI=Gm/C, VII=Adim/C.

Don't forget, always look at the mode from its "parent" scale and not from its matching major scale! In this case, C is the mode's "parent" scale, and B♭ is the matching scale. The C bass pedal helps to reinforce the "parent" scale's root (tonic) which is C. The Dorian mode produces a high-tech bluesy sound.

- Phrygian Question: If E Phrygian is the third mode in a C major scale, then ***C Phrygian*** is the third mode of what major scale?
- Phrygian Answer: ***C Phrygian*** is the third mode of the A♭ major scale. That is, the notes in the A♭ major scale are identical to the notes of the C Phrygian scale. By using the harmonized A♭ major scale over a C bass pedal, the characteristic Phrygian sound will be produced. The harmonized A♭ major slash chord scale for C Phrygian looks like the following: I=A♭/C, II=B♭m/C, III=Cm/C, IV=D♭/C, V=E♭/C, VI=Fm/C, VII=Gdim/C.

Don't forget to look at the mode from its "parent" scale and not from its matching major scale! In this case, C is the mode's "parent" scale, and A♭ is the matching scale. Once again, the C bass pedal helps to reinforce the "parent" scale's root (tonic) which is C. Phrygian has a flamenco or Spanish sound.

- Lydian Question: If F Lydian is the fourth mode in a C major scale, then ***C Lydian*** is the fourth mode of what major scale?
- Lydian Answer: ***C Lydian*** is the fourth mode of the G major scale. That is, the notes in the G major scale are identical to the notes of the C Lydian scale. By using the harmonized G major scale over a C bass pedal, the characteristic Lydian sound will be produced. The harmonized G major slash chord scale for C Lydian looks like this: I=G/C, II=Am/C, III=Bm/C, IV=C/C, V=D/C, VI=Em/C, VII=F♯dim/C. The Lydian mode creates a modern fusion-style sound.

- Mixolydian Question: If G Mixolydian is the fifth mode in a C major scale, then ***C Mixolydian*** is the fifth mode of what major scale?
- Mixolydian Answer: ***C Mixolydian*** is the fifth mode of the F major scale. That is, the notes in the F major scale are identical to the notes of the C Mixolydian scale. So, by using the harmonized F major scale over a C bass pedal, the characteristic Mixolydian sound will be produced. The harmonized F major slash chord scale for C Mixolydian looks like this: I=F/C, II=Gm/C, III=Am/C, IV=B♭/C, V=C/C, VI=Dm/C, VII=Edim/C. The Mixolydian mode *leans* in the blues/fusion direction.

- Aeolian Question: If A Aeolian is the sixth mode in a C major scale, then ***C Aeolian*** is the sixth mode of what major scale?
- Aeolian Answer: ***C Aeolian*** is the sixth mode of the E♭ major scale. That is, the notes in the E♭ major scale are identical to the notes of the C Aeolian scale. So, by using the harmonized E♭ major scale over a C bass pedal, the characteristic Aeolian sound will be produced. The harmonized E♭ major slash chord scale for C Aeolian looks like this: I=E♭/C, II=Fm/C, III=Gm/C, IV=A♭/C, V=B♭/C, VI=Cm/C, VII=Ddim/C. Go for the Aeolian mode if you dream of becoming a groove-intensive blues player.

- Locrian Question: If B Locrian is the seventh mode in a C major scale, then ***C Locrian*** is the seventh mode of what major scale?
- Locrian Answer: ***C Locrian*** is the seventh mode of the D♭ major scale. That is, the notes in the D♭ major scale are identical to the notes of the C Locrian scale. So, by using the harmonized D♭ major scale over a C bass pedal, the characteristic Locrian sound will be produced. The harmonized D♭ major slash chord scale for C Locrian looks like this: I=D♭/C, II=E♭m/C, III=Fm/C, IV=G♭/C, V=A♭/C, VI=B♭m/C, VII=Cdim/C. The "dark beauty" Locrian mode always sounds new, fresh, 5 dimensional, and unique.

IMPORTANT Don't forget, always try to see a mode from its "parent" scale, and not from its matching scale!

Homework/Chapter 37

ASSIGNMENT ONE... Demonstrate each of the seven modes by writing and performing seven original songs. Use correctly matched harmonized major slash chords and tonic major scale (i.e. "parent" major scale) mode combinations. Listen to each of the seven major scale modes, and be aware of their individual characteristics.

ASSIGNMENT TWO... "Song-of-the-Week." Get serious and record all assignments for at least **one, two, or three weeks.** This chapter is crucial if you dream of becoming the one of the best, so spend extra time on its content.

THE BOTTOM LINE... Almost all music can be related to some type of mode. It's interesting to note that modes have the possibility to exist in all scales, including the Japanese minor scale, melodic minor scale, whole-tone scale, and others. As a matter of fact, modes have the possibility to exist even in modes. As someone once said... *the possibilities are endless!*

CHAPTER

38

Single Pattern Soloing Systems

It's possible to play a *single* major scale pattern (such as the URMSP) over any major scale mode simply by matching modes and harmonized scales. To be more specific, I use the tonic's Phrygian mode pattern (i.e. the "parent" scale's Phrygian mode pattern) and count *backwards* the same number of scale degrees equal to the mode's major scale position. This target note is the matching major scale, and contains the same notes as the mode. Finally, I plug-in my favorite major scale pattern. The result is a single *repeating* pattern played over all major scale modal progressions, and guarantees faster motor skill development due to the ***repetition.*** This means you can *burn* like an out-of-control freight train in a shorter period of time!

For example, let's say that you want to write a song in C Dorian. You already know the C Dorian formula 1-2-♭3-4-5-6-♭7 (i.e. C-D-E♭-F-G-A-B♭). And, you already know that these notes are to be used when soloing in C Dorian. But, you are not sure as to which harmonized scale will match and produce the characteristic Dorian sound. By using the Phrygian pattern (formula 1-♭2-♭3-4-5-♭6-♭7-1), or in this case C Phrygian (C-D♭-E♭-F-G-A♭-B♭-C), you'll be able to quickly and easily determine the correctly matched major scale.

Be aware that a mode's matching major scale provides four important ingredients for improvising. (1) First, the matching major scale's notes are the same as those found in the mode, and should be used for soloing. (2) Second, as with chord construction and building any harmonized scale, every other note in the matching major scale will generate the matching harmonized major scale. (3) Third, looking at the matching major scale from its root will always provide you with a major scale from which to work. (This concept works even when you're in minor keys! In other words, the concept is similar to that of relative key relationships.) (4) Fourth, always try to incorporate the "parent" scale's tonic somewhere in each of the matching harmonized scale's chords, either as a bass pedal in a slash chord, or as an actual chord tone. The addition of the tonic reinforces the "parent" scale.

Locating Matching Scales

First step is to know the mode's position in the major scale. Continuing with the above example, C Dorian is the second mode of some major scale, right? Since Dorian is the number "two" mode in some major key, count the Phrygian formula *backwards* "two" scale degrees. Counting the C Phrygian pattern "two" scale degrees backwards will yield the matching major scale for C Dorian.

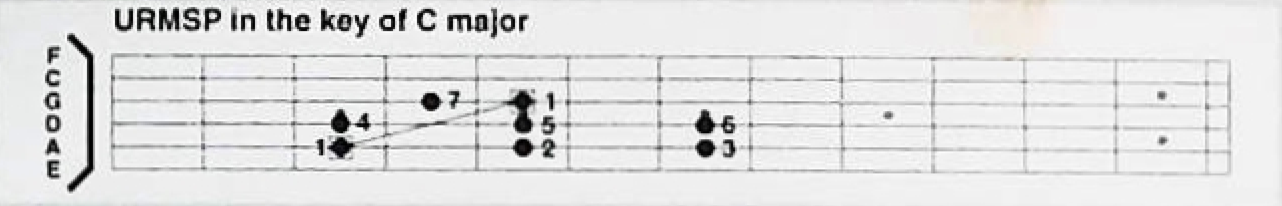
- counting the Phrygian pattern backwards number 1 =
  -scale degree is 1
  -note name is C
- counting the Phrygian pattern backwards number 2 =
  -scale degree is ♭7
  -note name is B♭

B♭ is the resulting matching major scale for C Dorian. So, if you play the harmonized B♭ major scale using slash chords with C in the bass (i.e. C is the bass pedal), and solo over it with the B♭ major scale, then you have created the characteristic C Dorian sound. C is used in the bass to reinforce the "parent" C major scale. Don't forget, the B♭ major scale contains the same notes as the C Dorian mode! *Example 38-A* presents a step by step approach to locating matching major scales for major scale modes.

Example 38-A

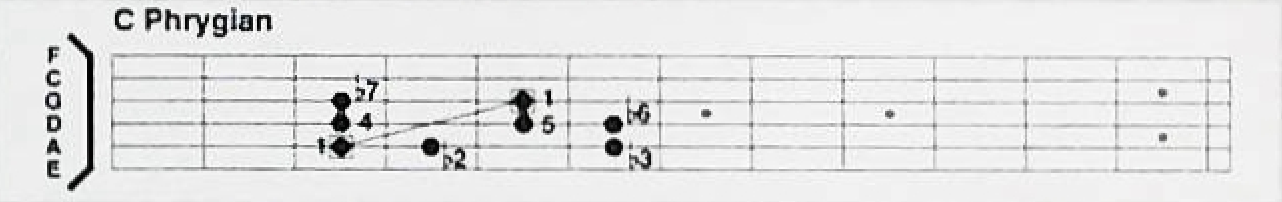
STEP #1)

Find your favorite major scale comfort-zone pattern. My personal favorite is the URMSP, and is presented below with scale degrees.



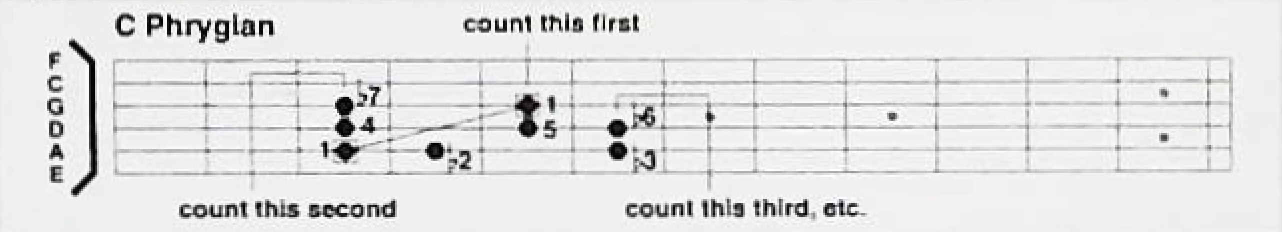
STEP #2)

Alter the "parent" major scale pattern from the above to fit Phrygian formula.



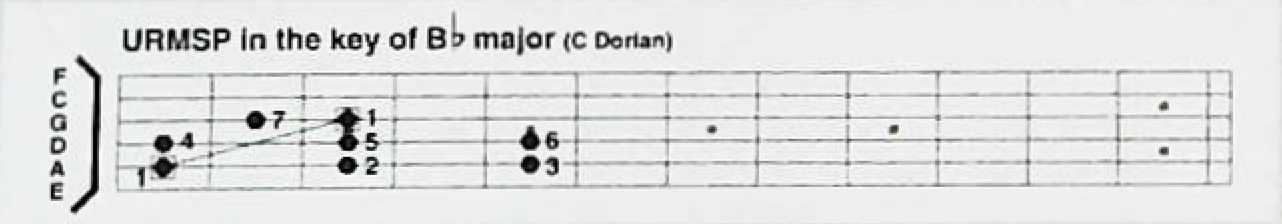
STEP #3)

Count the Phrygian scale backwards the same number of scale degrees as the target mode. For example, the target mode is Dorian. Since Dorian is the *second* mode in a major scale, count *two* scale degrees *backwards* from the tonic (root). The result of counting backwards two scale degrees is ♭7. This ♭7 scale degree note B♭ is the matching major scale for the C Dorian mode.



STEP #4)

Apply the matching major scale to the fretboard. This scale is equal to the target mode. You can now clearly see the harmonized scale simply by examining the matching major scale. For example, B♭ is the matching major scale, and B♭ is the matching harmonized major scale for C Dorian. Don't forget to add the C bass pedal to all B♭ harmonized scale chords in order to emphasize that the root, tonic, and/or "parent" major scale scale is C, and to achieve the characteristic Dorian sound.

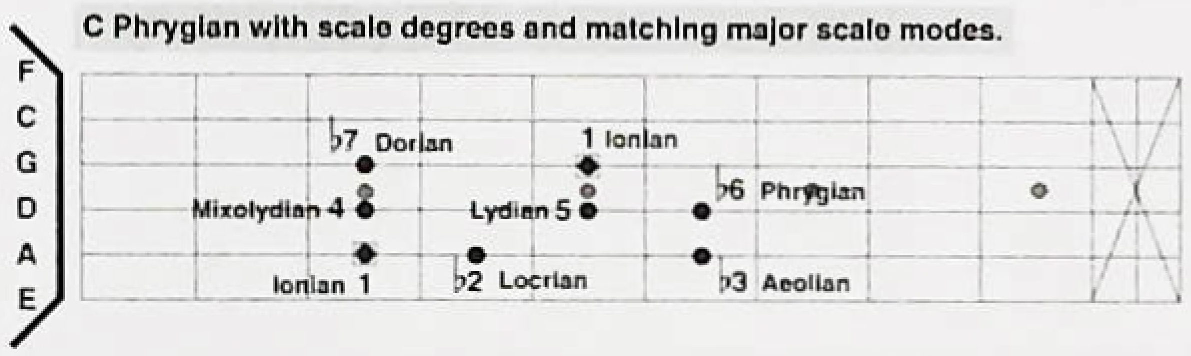


Example 38-B is a list and fretboard diagram of Phrygian scale degrees with related matching major scale modes. You only need to locate the correct scale degree in order to determine the correct mode and matching major scale. I prefer counting backwards, so the scale degrees and their related matching major scale modes are shown in reverse. So, always begin with the tonic and/or "parent" major scale, alter it to fit the Phrygian formula, and count (in reverse) through the scale degrees to determine the appropriate matching major scale.

Example 38-B:

Phrygian Scale Degree	Matching Mode
1	Ionian
♭7	Dorian
♭6	Phrygian
5	Lydian
4	Mixolydian
♭3	Aeolian
♭2	Locrian
1	Ionian

C Phrygian with scale degrees and matching major scale modes.



Open Slash Chords

My ultra-favorite song-building system is to perform all songs in the key of E, A, or D. This allows me the luxury of using an "open" bass string as bass pedal, while I freely and comfortably add root position, 1st inversion, and 2nd inversion harmonized major scale diad and triad chords on top (slash chord method). The modes are then selected, matching major scales chosen, harmonized, and finally played over the open bass string. Yes, you can also play extended and/or altered chords on top of the bass pedals. Don't forget to mute the open bass string whenever necessary in order to produce a tighter, more controlled sound.

More Soloing Tips

A quick and easy system for soloing "inside" and "outside" of a "parent" scale, without constructing matching harmonized major scales, is to think *major tonality solos* and *minor tonality solos*. For example, if you're jammin' in C major and would like to sound *major,* go to the "parent" C Phrygian pattern and select scale degrees which sound "major" –such as Ionian (scale degree 1, key of C major) and Lydian (scale degree 5, key of G major). You should then play your comfort-zone major scale pattern. In other words, I would play a C major scale (C Ionian) and/or a G major scale (C Lydian) over the C harmonized major scale with the same major scale pattern (such as the URMSP). ***Don't forget to start each pattern from its respective root!*** By the way, the C Lydian scale (i.e. the G major scale in this example) will sound a little "outside" of the C tonic (i.e. the "parent" C major scale) due to the ♯4. It's also possible to mix and match other chord and scale combinations (review available chord categories and their matching scales) The selection is virtually endless, and the scale/chord combination choice is always yours.

Homework/Chapter 38

ASSIGNMENT ONE… Select and name each correct matching major scale degree to be used with each of the seven scale modes. The "parent" scale is your choice!

ASSIGNMENT TWO… Write one song for each of the seven major scale modes with a single major scale pattern (such as the URMSP), and match with the correct harmonized major scale using slash chords.

ASSIGNMENT THREE… "Song-of-the-Week." Do it and use it!

THE BOTTOM LINE… It's so easy to rely on one pattern to accomplish the majority of soloing requirements. As a matter of fact, ***pattern repetition*** is the key ingredient to the *World Domination Kit for Mastering the Guitar*. This one pattern will not become musically boring if you frequently apply systems such as matching major scale and matching harmonized major scale combinations.

One of the biggest problems with mainstream rock is that it pulls from one area. As a result, it tends to get very boring playing over the harmonic structure found in rock. If you "crank" with some additional systems, such as those found in Radical Rules, you will soon discover fun, excitement, and musical freshness oozing out of your fingertips.

CHAPTER 39

Changes and Chord Tone Soloing Systems

When you need to develop melodies or solos over each individual chord in a chord progression, *playing over changes* is the system to master. It's my opinion that if playing through chord charts, or soloing over multiple chords is a musician's goal, the use of matching scale formulas (the formula system) is superior to the playing-in-position pattern system. For example, when soloing over the same chord, and/or over the same key center for a period of time, the pattern system is an efficient and effective method for soloing. But, if you're soloing over lots of chord *changes,* and you're not too sure where or if any key modulation (i.e. change of key centers) exists, go for the formula system. You just don't have enough time to *evaluate* each chord and locate appropriate soloing patterns in performance situations. The formula system is a fantastic alternative to the pattern system for building melodies and solos over individual chords quickly and easily. *Playing over changes* is terminology for applying *soloing systems* over each individual chord in a chart.

Soloing with Chord Tones

If you want to sound "inside," natural, and musical, soloing with *chord tones* is the way to fly. Just as the title suggests, soloing with chord tones is soloing with chord tones. This particular approach to soloing is perhaps the most natural sounding of all soloing systems. It reproduces the same exact notes and intervals as those found in the chord over which it solos. For example, suppose you want to solo over the C6 chord voicing 5-1-3-6. The matching scale over one octave would be 1-3-5-6; over two octaves 1-3-5-6-8-10-12-13. Mixing and matching these possible intervals over the C6 chord will generate some very melodic soloing. Soloing with chord tones can really help in developing your musical personality.

Formula Soloing Options

Don't feel limited to only using my personal selection of soloing roadmaps. A universe of soloing options is awaiting your discovery, such as the following:

■ OPTION #1) Match each Roman numeral functioning chord to its respective modal scale. For example, in the key of C major using triad chords, when you see a C major chord (the I chord), solo over it with the 1st scale degree mode, the C Ionian mode. When you see a D minor chord (the II chord), solo over it with the 2nd scale degree mode, the D Dorian mode. Solo with E Phrygian (3rd degree scale mode) over the E minor chord (the III chord). Solo with F Lydian (4th scale degree mode) over the F major chord (the IV chord). Solo with G Mixolydian (5th scale degree mode) over the G major chord (the V chord. Solo with A Aeolian (6th scale degree mode) over the A minor chord (the VI chord). Finally, solo with B Locrian (7th scale degree mode) over the B diminished chord (the VII chord).

■ OPTION #2) Match like-chords with like-scales within the "parent" scale. That is, when you see any major chord, solo over it with any major tonality scale found in the "parent" scale. For example, in the key of C major, the major chords are C and F. So, it's possible to solo over the C major chord (the I chord) with C Ionian and/or F Ionian. Or, you could solo over the C major chord (the I chord) with C Lydian and/or F Lydian. And so on. Mixolydian could also "fit" into the major tonality realm due to the absence of the ♭3.

Likewise, whenever you see a minor chord, solo over it with any minor tonality scale found in the "parent" scale. For example, in the key of C major, the minor chords are Dm, Em, and Am. So, it's possible to solo over the Dm chord with D Dorian, E Dorian, and/or A Dorian, because "D" (i.e. the root of the Dm chord) is the 2nd scale degree in the "parent" C major scale, and Dorian is the 2nd mode in any major scale. Or, you could solo over Dm with D Phrygian, E Phrygian, and/or A Phrygian, because "E" (i.e. the root of the Em chord) is the 3rd scale degree in the "parent" C major scale, and Phrygian is the 3rd mode in any major scale. This same concept can be applied to D Aeolian, E Aeolian, and/or A Aeolian played over the Dm chord. Don't forget that Dorian, Phrygian, and Aeolian modes are minor tonality scales! *Example 39-A* lists chords with possible scale choices. Not including altered scales, exotic scales, and pentatonics, the large number of soloing options shown below provides the articulate musician with a substantial soloing palette from which to choose.

Example 39-A:

Soloing Options for the Harmonized C Major Scale

	Harmonized C Major Scale						
	Cmaj7	Dm7	Em7	Fmaj7	G7	Am7	Bm7♭5
Possible Scale Selections	C Ionian	D Dorian	E Phrygian	F Lydian	G Mixolydian	A Aeolian	B Locrian
	C Lydian	D Phrygian	E Aeolian	F Mixolydian	G Ionian	A Locrian	B Dorian
	C Mixolydian	D Aeolian	E Locrian	F Ionian	G Lydian	A Dorian	B Phrygian
	F Ionian	D Locrian	E Dorian	C Lydian	C Mixolydian	A Phrygian	B Aeolian
	F Lydian	E Dorian	A Phrygian	C Mixolydian	C Ionian	B Aeolian	D Locrian
	F Mixolydian	E Phrygian	A Aeolian	C Ionian	C Lydian	B Locrian	D Dorian
	G Ionian	E Aeolian	A Locrian	G Lydian	F Mixolydian	B Dorian	D Phrygian
	G Lydian	E Locrian	A Dorian	G Mixolydian	F Ionian	B Phrygian	D Aeolian
	G Mixolydian	A Dorian	B Phrygian	G Ionian	F Lydian	D Aeolian	E Locrian
		A Phrygian	B Aeolian			D Locrian	E Dorian
		A Aeolian	B Locrian			D Dorian	E Phrygian
		A Locrian	B Dorian			D Phrygian	E Aeolian
		B Dorian	D Phrygian			E Aeolian	A Locrian
		B Phrygian	D Aeolian			E Locrian	A Dorian
		B Aeolian	D Locrian			E Dorian	A Phrygian
		B Locrian	D Dorian			E Phrygian	A Aeolian

Homework/Chapter 39

ASSIGNMENT ONE... Write an original song in C major, and perform it seven times using each chord of the harmonized C major scale. The first version should be performed with only the Cmaj7 chord, with one or more of the possible scale options. The second version should be performed with only the Dm7 chord, with one or more of the possible scale options, etc..

ASSIGNMENT TWO. . "Song-of-the-Week." Record it! **One week!**

THE BOTTOM LINE... Try to find chord/scale combinations that sound and feel comfortable to you. Avoid combinations which don't flow easily through your brain, muscles, and fingertips.

IMPORTANT The use of seven and eight note scales are "cool," but five note pentatonics can sometimes be faster due to fewer notes (five notes versus seven), and sometimes more exciting due to larger intervallic distances. Time and experience with scales and their pentatonics will provide you with personalized comfort-zone systems. Whenever experimenting with and/or devising systems for chording and soloing, always use your greatest asset... your ears!

CHAPTER 40

Triad Soloing Systems

If you would like to break-away from scale-oriented solos and keep your music clean, musical, uncomplicated, and melodic, soloing with *triads* is an effective alternative. Fusion guys like Mike Stern and Larry Carlton readily use *diatonic triads* in a variety of soloing situations. But, be careful! While the concept of soloing with diatonic triads is relatively easy, the execution is rather difficult, especially if you play triads as three note arpeggios. For example, suppose you want to solo over a Cmaj7 chord with triads. If you consider the Cmaj7 to be the I chord in a harmonized C major scale, the available "major" triads for soloing would be C major triad, F major triad, and G major triad. Look closely at these three triads and you'll notice that they contain *all* of the notes found in the major scale. So, you're actually playing the C major scale. But, rather than playing in a scale-form, diatonic triad soloing allows you the freedom to perform in a *melodic-form.* I guess soloing with diatonic triads could be loosely defined as *superimposed chord tone soloing.*

Additional Options

Maybe you would like to add some "color" to brighten-up the rather ordinary-sounding C, F, and G major triads? Not only can the Cmaj7 function as the I chord in C major, but it could also function as the IV chord in the key of G major. The harmonized G major scale produces a G major triad (same as in the key of C), a C major triad (again, the same as in the key of C), and a D major triad. Soloing with G, C, and D major triads found in the harmonized G major scale produces a slight difference in complexion and tension when compared to the C, F, and G major triads found in the harmonized C major scale.

IMPORTANT It's crucial to use and see triads from only one harmonized scale. Do not mix and combine triads from more than one harmonized scale! How would it sound if you were to combine and use more than one "parent" scale during a solo? Doing so would only result in muddy textures and obscure phrasing. Then again, maybe that's the sound you need!?!? Anything and everything is possible.

Another example could be soloing with diatonic major triads over C7. It's possible to see the C7 functioning as the V chord in the harmonized F major scale. The harmonized F major scale produces the following major triads: the F major triad, the B♭ major triad, and the C major triad. So, you would solo over the C7 with the F major triad, the B♭ major triad, and the C major triad. Soloing with diatonic triads could be viewed as a type of *modal interchange,* because you're actually superimposing different triadic scales over the target chord. The target chords for these examples have been Cmaj7 and C7.

IMPORTANT If this is your first soloing experience with diatonic major triads, it's worthwhile playing a specific sequence and/or arpeggio with all three notes found in one triad *before* moving on to the next triad. And, when you get to the next triad, repeat *the same* sequence. This type of sequence repetition over a few triads is the trademark sound of diatonic triad soloing. As an alternative, random note selection soloing will make your triads sound musical and soulful. Soloing with diatonic major triads is an incredible system to use when you don't want to sound scale-oriented. I personally feel that diatonic triad soloing can be classified as state-of-the-art soloing perfection!

Homework/Chapter 40

ASSIGNMENT ONE... Write an original song using diatonic major triads while playing over one chord. Next, repeat this song and change the chord's function and Roman numeral to fit a different harmonized scale.

ASSIGNMENT TWO... "Song-of-the-Week." Go for the latest Mike Stern or Larry Carlton CD if you're into diatonic triad soloing.

ASSIGNMENT THREE... ***Outside "help" is required to reinforce all chapters found in this level!*** It's crucial to thoroughly understand everything found in Radical Rules __before__ moving-on to your next musical plateau.

THE BOTTOM LINE... Triads sound a little like fusion or jazz due to their sophisticated structure. With proper phrasing, they can function equally well in all styles of music. Diatonic major triad soloing is a non-scale-oriented soloing system due to its chord tone structure.

After seeing your favorite musician on stage performing one devastating solo after another, you can sometimes become so frustrated with your own playing that you actually give-up and stop with the guitar. Musicians who compete for whatever reason generally find themselves in last place. *Mother Nature* dictates that all people are unique individuals. Once you are able to realize and accept your own individuality, the fear of *how do I compare with the competition?* begins to disappear. You will then begin to build the freedom required to develop your own personalized trademark style and sound.

It's time to "connect" with your musical destiny and accept the responsibility for your future. If your dreams and desires are genuine, they will provide the strength required to persevere and complete the hard work necessary to reach your maximum personal level of musicianship.

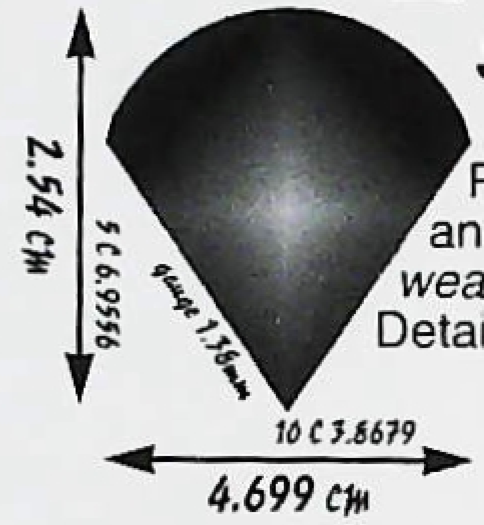
YOU CAN DO IT!

Chords

Symbol	Formula	Description
C	1-3-5	C major triad
Cm	1-♭3-5	C minor triad
Caug	1-3-♯5	C major triad with a sharp five
Cdim	1-♭3-♭5	C minor triad with a flat five
C2	1-2-5	C triad with a nine and no third
Csus2	1-2-5	C triad with a nine and no third
Csus4	1-4-5	C triad with an eleven and no third
C5	1-5	C triad without the third (C power chord)
C6	1-3-5-6	C major triad with a sixth (C major 6)
Cm6	1-♭3-5-6	C minor triad with a sixth (C minor 6)
C 6/9	1-3-5-6-9	C major triad with a sixth and a ninth (C major 6 add 9)
Cm 6/9	1-♭3-5-6-9	C minor triad with a sixth and a ninth (C minor 6 add 9)
Cmaj7	1-3-5-7	C major seventh
Cm7	1-♭3-5-♭7	C minor seventh
Cm (maj7)	1-♭3-5-7	C minor triad with a seventh
Caug7	1-3-♯5-♭7	C augmented seventh
Cdim7	1-♭3-♭5-♭♭7	C diminished seventh
Cmaj7 ♭5	1-3-♭5-7	C major seventh with a flat five
Cm7 (♭5)	1-♭3-♭5-♭7	C minor seventh with a flat five
C7	1-3-5-♭7	C dominant seventh
C7 ♭5	1-3-♭5-♭7	C dominant seventh with a flat five
C7 ♯5	1-3-♯5-♭7	C dominant seventh with a sharp five
C7 ♭9	1-3-5-♭7-♭9	C dominant seventh with a flat nine
C7 ♯9	1-3-5-♭7-♯9	C dominant seventh with a sharp nine
C7sus4	1-4-5-♭7	C dominant seventh with an eleventh and no third
Cmaj9	1-3-5-7-9	C major seventh with a ninth
Cm9	1-♭3-5-♭7-9	C minor seventh with a ninth
C add 9	1-3-5-9	C major triad with a ninth
Cm add 9	1-♭3-5-9	C minor triad with a ninth
C9	1-3-5-♭7-9	C dominant seventh with a ninth
Cmaj11	1-3-5-7-11	C major seventh with an eleventh
Cm11	1-♭3-5-♭7-11	C minor seventh with an eleventh
C11	1-3-5-♭7-11	C dominant seventh with an eleventh
Cmaj13	1-3-5-7-13	C major seventh with a thirteenth
Cm13	1-♭3-5-♭7-13	C minor seventh with a thirteenth
C13	1-3-5-♭7-13	C dominant seventh with a thirteenth

Scales

Name	Formula
Major	1-3-5
Major Pentatonic	1-2-3-5-6
Minor Pentatonic	1-♭3-4-5-♭7
Blues Scale	1-♭3-4-♭5-5-♭7
Major Pentatonic (with blue note)	1-2-♭3-3-5-6
L.A. Major Pentatonic	1-2-3-5-6-♭7
L.A. Minor Pentatonic	1-♭2-♭3-4-5-♭7
Ionian	1-2-3-4-5-6-7
Dorian	1-2-♭3-4-5-6-♭7
Phrygian	1-♭2-♭3-4-5-♭6-♭7
Lydian	1-2-3-♯4-5-6-7
Mixolydian	1-2-3-4-5-6-♭7
Aeolian	1-2-♭3-4-5-♭6-♭7
Locrian	1-♭2-♭3-4-♭5-♭6-♭7
Augmented (whole-tone scale)	1-2-3-♯4-♯5-♯6
Harmonic Minor	1-2-♭3-4-5-♭6-7
Harmonic Minor Pentatonic	1-♭3-4-5-7
Melodic Minor	1-2-♭3-4-5-6-7
Melodic Minor Pentatonic	1-♭3-4-5-7
Diminished	1-2-♭3-4-♭5-♭6-6-7
Diminished Pentatonic	1-♭3-4-♭5-7
Hungarian Minor (gypsy minor)	1-2-♭3-♯4-5-♭6-7
Hungarian Minor Pentatonic	1-♭3-♯4-5-7
Japanese Minor Pentatonic	1-2-♭3-5-♭6
Japanese Major Pentatonic	1-3-4-6-7



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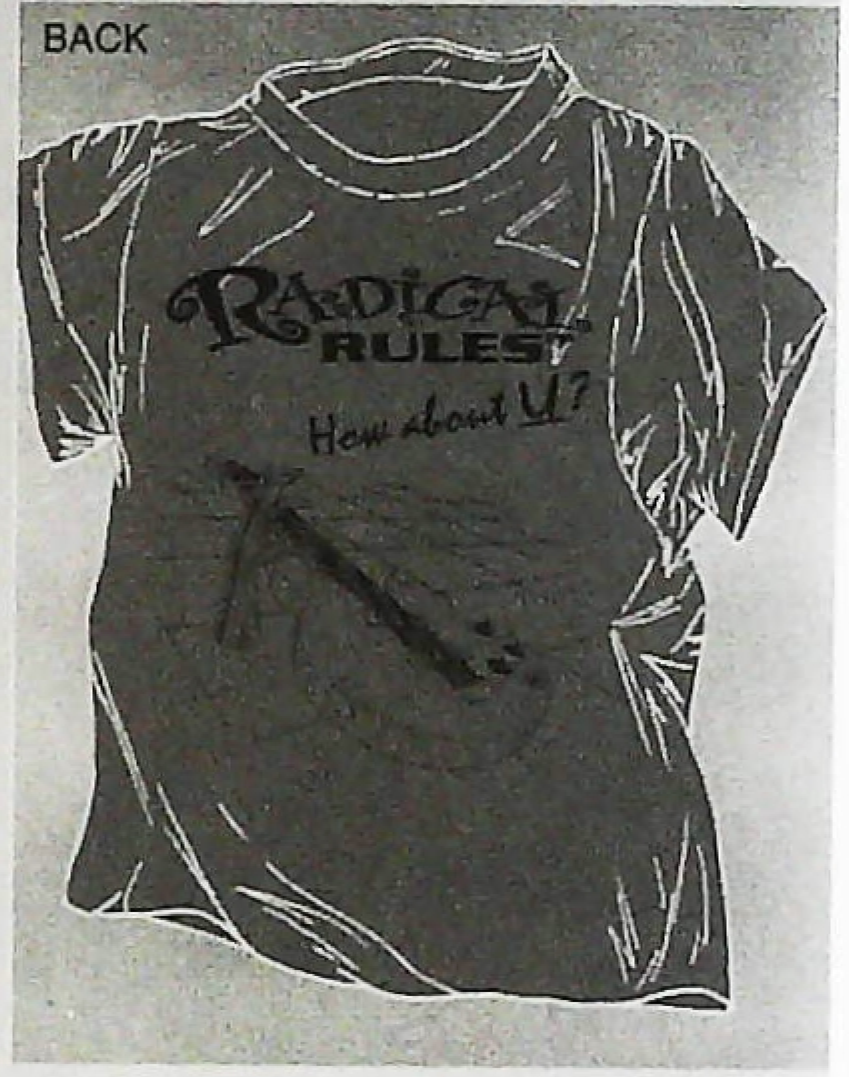

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FROM THE AUTHOR...

Each time I would perform, I always found myself returning to my favorite "pet" licks, patterns and comfort-zone. The newly discovered knowledge was having difficulties transferring from my control center (brain) and to my fingertips. It was really spooky! Here I was, a carbon-based life form (from planet Earth) with gear for maximum sonic impact, unable to squeeze the new info into my playing. Even while attending one of those high-tech guitar schools, I quickly discovered that the students were only *brain-learning* –they were just not able to transfer the freshly-learned knowledge to their fingertips. So, at the end of one year, most of the students left the school with loads of high-powered knowledge, but unable to perform with their instruments. As you could imagine, lots of dreams were shattered.

Something was needed to...

- 1) Break-away from already pre-learned patterns *without* relearning everything on the guitar from scratch.
- 2) Transfer new theory/harmony/guitar technique information from the control center (brain) and to the fingertips.
- 3) Do it fast!

After 2-1/2 years of intense research, I developed the *Radical Rules™* method of forcing those new concepts into my playing.

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ABOUT THE AUTHOR...

Stuart Christopher Wittrock is an internationally acclaimed musician . The guitar being his primary instrument, he has expanded his music arsenal to include the Chapman Stick® and Macintosh®-based sequencing for music composition and performance.

Regarded as a visionary and considered an ace-arranger, with credits including touring and studio work in addition to writing, performing and producing music for television, Stuart has had the good fortune to study under Paul Hanson (*Back to the Future*, the motion picture), Les Wise *(Stevie Wonder)*, Frank Gambale, Mike Stern, Joe Diorio, Johnny Smith, Chet Atkins and others.

As a pioneer in musical instrument education and comprehension, Stuart lived in the heart of Europe (Vienna, Austria) for several years fine-tuning his musical knowledge and abilities. While in Vienna, he studied at the prestigious American Institute of Music (A.I.M.), a professional music school based on the intensive G.I.T.–style educational process. It was during this time *Radical Rules™* was developed.

If you're out for total victory in the Music Wars, your search is over. Falling somewhere between art and science, Stuart has discovered the *magic* formula for the only 21st century self-teach guitar/songwriting system on our planet!

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